



DEPARTMENT OF THE NAVY
OFFICE OF NAVAL RESEARCH
ARLINGTON, VIRGINIA 22217

IN REPLY REFER TO

The Contract Security Classification Specification
(DD Form 254) covering the contract identified in
the attached modification has been reviewed and has
been found to be current as of the date of this
modification.

E. P. BLEDSOE
Contracting Officer

AMENDMENT OF SOLICITATION/MODIFICATION OF TRACT

PAGE 1 OF 1

1. AMENDMENT/MODIFICATION NO. P00005		2. EFFECTIVE DATE 72FEB14	3. REQUISITION/PURCHASE REQUEST NO. NR 309-005/ 7-14-71 and 11-22-71 (441)	4. PROJECT NO. (If applicable) N. A.
5. ISSUED BY Procuring Contracting Officer Office of Naval Research Department of the Navy Arlington, Va. 22217		6. ADMINISTERED BY (If other than block 5) SCD-B Commander, Defense Contract Administration Services Region P. O. Box 7478 Philadelphia, Pennsylvania 19101	7. CONTRACTOR NAME AND ADDRESS Randomline, Incorporated Old York & Moreland Roads Willow Grove, Pennsylvania 19010	

8. THIS BLOCK APPLIES ONLY TO AMENDMENTS OF SOLICITATIONS (N. A.)	9. AMENDMENT OF SOLICITATION NO. N. A.
<input type="checkbox"/> The above numbered solicitation is amended as set forth in block 12. The hour and date specified for receipt of offers <input type="checkbox"/> is extended <input type="checkbox"/> is not extended.	DATED _____ (See block 9)
Offerees must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation, or as amended, by one of the following methods: (a) By signing and returning _____ copies of this amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE ISSUING OFFICE PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If, by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided such telegram or letter makes reference to the solicitation and amendment, and is received prior to the opening hour and date specified.	<input checked="" type="checkbox"/> MODIFICATION OF CONTRACT/ORDER NO. N00014-69-C-0181
	DATED _____ (See block 11)

ACR	APPROPRIATION SYMBOL AND FUND	OBJ. CLASS.	U.S. ALLOT.	AUTHORITY ACCTG. ACT.	TRANS. TYPE	PROG. ELEM. ID.	COST CODE	AMOUNT
1E	1721319-2427 NAVSHIPS Reqn. #	000	00024	0	065872	2B	602705	00006411000Q
1F	1721319-1421	000	03543-03543-2	0	1204/11-29-71	2B	124101	0300000001K41

1. THIS BLOCK APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS

(a) ☐ This Change Order is issued pursuant to _____
The Changes set forth in block 12 are made to the above numbered contract/order.

(b) ☐ The above numbered contract/order is modified to reflect the administrative changes (such as change in paying office, appropriation data, etc.) set forth in block 12.

(c) ☒ This Supplemental Agreement is entered into pursuant to authority of 10 U.S.C. 2304 (a) (11)
It modifies the above numbered contract as set forth in block 12.

2. DESCRIPTION OF AMENDMENT/MODIFICATION

It is the desire of the Government and the Contractor that additional research on behavioral biophysics be performed, and also that the description of work be revised to more clearly set forth the research to be performed. To accomplish this, there are hereby provided a revision in the description of work, an increase in the fixed price and an extension in the period of performance of Contract N00014-69-C-0181.

In consideration of the foregoing said contract, as modified, is hereby further modified as set forth on the pages attached hereto and made a part hereof.

ORIGINAL EXECUTED COPY

3. CONTRACTOR/OFFEROR IS NOT REQUIRED TO SIGN THIS DOCUMENT ☒ CONTRACTOR/OFFEROR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN 3 COPIES TO ISSUING OFFICE

NAME OF CONTRACTOR/OFFEROR: RANDOMLINE, INCORPORATED

NAME AND TITLE OF SIGNER (Type or print): A.R. Zandle SEC TREAS

DATE SIGNED: 3 MARCA, 1972

NAME OF CONTRACTING OFFICER (Type or print): J. J. Santuschlager

DATE SIGNED: 3/8/72

CONTRACT REVIEWED FOR FISCAL DATA AND SIGNATURES BY: 3-9-72 FOR COMPTROLLER. ONR

CONTRACT NUMBER: N00014-69-C-0181
MODIFICATION NO: P00005

1. In Block Number 21 of the Face Page of the Contract, delete the figure "\$93,208.00" and substitute in lieu thereof the figure "\$178,058.00."

2. In Block Number 12 of the Face Page of Modification P00004, delete the "Completion Date" in its entirety.

3. Effective as of the date of this modification, delete the first sentence of Section A of the Schedule in its entirety, and substitute in lieu thereof the following:

"This Schedule is established under, and constitutes a part of, Contract N00014-69-C-0181, consisting of: Face Page; Schedule; Exhibit A, and General Provisions pages 1 through 29, identified as 'C(P) - October 1969.'"

4. Delete Section B of the Schedule in its entirety and substitute in lieu thereof the following:

"SECTION B - SPECIFICATION OF WORK

<u>"Line Item No.</u>	<u>Supplies/Services</u>	<u>Amount</u>
0001	Scope of Work and Reports - See Exhibit A, dated 14 February 1972, attached hereto, and made a part hereof.	(See Exhibit A)

EAM TITLE: BEHAVIORAL BIOPHYSICS."

5. Delete Section C in its entirety and substitute in lieu thereof the following:

"SECTION C - PERIOD OF PERFORMANCE

The performance of work under this contract shall commence on 15 February 1969 and shall be completed on 14 February 1973."

6. Delete Section D in its entirety and substitute in lieu thereof the following:

"SECTION D - SCIENTIFIC OFFICER

The Scientific Officer under this contract is the Director, Physiology Programs, Biological and Medical Sciences Division, Office of Naval Research, Department of the Navy, 800 N. Quincy Street, Arlington, Virginia 22217."

7. Effective as of the date of this modification, Paragraph (1) under Section F, "Reports", shall read as follows:

"(1) The Contractor shall submit not more than fifty (50) copies of status reports to the Scientific Officer on the dates specified in Exhibit A, and not more than one hundred (100) copies of a final technical report to be distributed in accordance with the following distribution list:

CONTRACT NUMBER: N00014-69-C-0181
MODIFICATION NUMBER: P00005

Paragraph (1), Section F Continued

<u>Addressee</u>	<u>DODAAD Code</u>	<u>Number of Copies</u>	
		<u>Unclassified</u>	<u>Classified</u>
Scientific Officer	N00014	1	1
Cognizant ONR Branch Office	N62879	1	1
Administrative Contracting Officer	S3910A	1	1
Director, Naval Research Laboratory Washington, D. C. 20390 Attention: Library, Code 2029 (ONRL)	N00173	6	0
Director, Naval Research Laboratory Washington, D. C. 20390 Attention: Technical Information Division	N00173	6	1
Defense Documentation Center, Building 5, Cameron Station, Alexandria, Virginia 22314	S47031	12	2
Additional copies to be distributed in accordance with instructions furnished by the Scientific Officer	N00014	65	65

With the approval of the Scientific Officer, reprints of published articles may be distributed as technical reports. In the technical reports (including reprints) submitted hereunder, there shall be affixed a face page which shall contain a statement that "reproduction in whole or in part is permitted for any purpose of the United States Government," and a statement that the research was sponsored by the Office of Naval Research, including the ONR Contract Number and the ONR Contract authority identification number (NR-, Reqn., etc.). Where reports based upon research performed under this contract are published in scientific and technical journals or where news releases are issued with regard to the work performed under this contract, there shall be included in such publications and news releases an appropriate statement acknowledging that the research being reported was accomplished with the support of the Office of Naval Research.

8. Delete Section G of the Schedule and substitute in lieu thereof the following:

"SECTION G - PAYMENT INSTRUCTIONS FOR MULTIPLE FUND ACCOUNTING CITATIONS

In making disbursements from multiple appropriations under this contract, the Disbursing Officer shall make disbursements of appropriations on a first-in, first-out basis, except that Appropriation ACR's: AD and AE shall be used only in connection with Exhibit Line Item A002".

9. Add the following new Sections H, I, and J to the Contract Schedule:

"SECTION H - MATERIAL INSPECTION AND RECEIVING REPORT (1969 DEC)

At the time of each delivery of supplies or services under this contract, the contractor shall prepare and furnish to the Government a Material Inspection and Receiving Report in the manner and to the extent required by ASPR Appendix I, Material Inspection and Receiving Report. Unless otherwise provided in the contract, the point of final inspection and acceptance is the Scientific Officer designated herein."

CONTRACT NUMBER: N00011-69-G-0181
MODIFICATION NO: P00005

"SECTION I - INVENTION DISCLOSURES AND REPORTS

The Contractor shall submit all invention disclosures and reports required by paragraph (c) of the Patent Rights Clause No. 43 to the Administrative Contracting Officer (ACO).

The ACO will forward such disclosures and reports directly to:

Patent Counsel (Code 315)
Office of Naval Research
Department of the Navy
Arlington, Va. 22217

The Patent Counsel will return the reports along with a recommendation to the ACO.

The Patent Counsel will represent the Contracting Officer with regard to invention reporting matters arising under this contract."

"SECTION J - STABILIZATION OF PRICES, RENTS, WAGES, AND SALARIES (1971 OCT)

(a) By Executive Order 11627, dated October 15, 1971, the President stabilized prices, rents, wages, and salaries. The contractor represents that to the best of his knowledge and belief he is in complete compliance with Executive Order 11627. Further, the contractor warrants that the amounts invoiced under this contract will not exceed the lower of (1) the contract price, or (2) the maximum levels established in accordance with the order.

(b) The contractor agrees to insert the substance of this clause, including this paragraph (b), in all subcontracts for supplies or services issued under this contract."

This modification increases the fixed price of said contract by \$84,850.00, which increase is chargeable against the appropriations set forth on Page 1, hereof.

CONTRACT NUMBER: NO0014-69-C-0181
 CONTRACT EXHIBIT: A
 CONTRACT LINE ITEM: 0001
 DATE: 14 February 1972

Item No. Supplies/Services

1001 The Contractor shall furnish the necessary personnel and facilities for and, in accordance with such instructions as may be issued by the Scientific Officer or his authorized representative within the scope of this contract, shall study the effects of exposure to radio frequency energy and ionized air on performance.

In accordance with the provisions of Section D and E of the Schedule, the Contractor is required to submit the following reports:

	<u>Type of Report</u>	<u>Due Date</u>	<u>Amount</u>	<u>ACR</u>
001AA	Status Reports Covering Previous Subline Items 1AA through 1AJ.	From 15 February 1969 through 15 December 1970	\$38,120.00	AA and AB
001AB	Status Report	15 February 1971	\$ 3,490.00	AB
001AC	Status Report	15 April 1971	\$ 3,545.00	AC
001AD	Status Report	15 June 1971	\$ 3,545.00	AC
001AE	Status Report	15 August 1971	\$ 3,545.00	AC
001AF	Status Report	15 October 1971	\$ 3,545.00	AC
001AG	Status Report	15 December 1971	\$ 3,545.00	AC
001AH	Status Report	15 February 1972	\$ 3,547.00	AC
001AI	Status Report	15 April 1972	\$ 4,105.00	AF
001AJ	Status Report	15 June 1972	\$ 4,105.00	AF
001AK	Status Report	15 August 1972	\$ 4,105.00	AF
001AL	Status Report	15 October 1972	\$ 4,105.00	AF
001AM	Status Report	15 December 1972	\$ 4,105.00	AF
001AN	Final Report	Due Not Later Than 14 April 1973	\$ 4,108.00	AF

002 The Contractor shall design, develop, optimize and test a fixed small scale model of weakly electric fish to assess its possible utility in detecting various metal and non-metal objects in water.

In accordance with the provisions of Section D and E of the Schedule, the Contractor is required to submit the following reports:

	<u>Type of Report</u>	<u>Due Date</u>	<u>Amount</u>	<u>ACR</u>
002AA	Status Report	31 January 1971	\$ 7,581.00	AD
002AB	Status Report	15 April 1971	\$ 7,581.00	AD
002AC	Status Report	30 June 1971	\$ 7,581.00	AD
002AD	Status Report	31 October 1971	\$ 7,583.00	AD
002AE	Status Report	15 April 1972	\$10,036.00	AE
002AF	Status Report	15 June 1972	\$10,036.00	AE
002AG	Status Report	15 August 1972	\$10,036.00	AE
002AH	Status Report	15 October 1972	\$10,036.00	AE
002AI	Status Report	15 December 1972	\$10,036.00	AE
002AJ	Final Report	Due Not Later Than 14 April 1973	\$10,037.00	AE

CONTRACT SECURITY CLASSIFICATION SPECIFICATION

(Complete classified items by separate correspondence)

PERFORMANCE OF THIS CONTRACT:

FACILITY SECURITY CLEARANCE REQUIRED FOR CONTRACT PERFORMANCE OR FOR ACCESS TO CLASSIFIED INFORMATION IS **SECRET**

2. THIS SPECIFICATION IS FOR:		3. CONTRACT NUMBER OR OTHER IDENTIFICATION NUMBER (Prime contracts must be shown for all subcontracts)	DATE TO BE COMPLETED (Estimated)	4. THIS SPECIFICATION IS: (See note below)	DATE
<input checked="" type="checkbox"/>	a. PRIME CONTRACT	b. PRIME N00014-69-C-0181		a. ORIGINAL	
	b. SUBCONTRACT (Use Item 8 to identify further subcontracting)	c. FIRST TIER SUBCONTRACT		<input checked="" type="checkbox"/> b. REVISED (Supersedes all previous specifications)	15 FEB 71
	c. INVITATION TO BID OR REQUEST FOR PROPOSAL	d. INVITATION FOR BID, REQUEST FOR PROPOSAL, OR REQUEST FOR QUOTE		c. FINAL	

5. IF THIS IS A FOLLOW-ON CONTRACT, ENTER PRECEDING CONTRACT NUMBER AND DATE COMPLETED

☒ DOES NOT APPLY

CONTRACT NUMBER

DATE COMPLETED

6a. NAME AND ADDRESS OF PRIME CONTRACTOR (Include ZIP Code)

Randomline, Inc.
Old York & Moreland Roads
Willow Grove, Pennsylvania 19010

b. NAME AND ADDRESS OF COGNIZANT SECURITY OFFICE (Include ZIP Code)

Defense Contract Administration Services
Region/Philadelphia
Box 7478
Philadelphia, Pennsylvania 19101

7a. NAME AND ADDRESS OF FIRST TIER SUBCONTRACTOR (If applicable)
(Include ZIP Code)

N/A

(Use Item 8 to identify further subcontracting)

b. NAME AND ADDRESS OF COGNIZANT SECURITY OFFICE (Include ZIP Code)

N/A

8. SUBCONTRACTING BEYOND FIRST TIER (as appropriate)

N/A

9a. GENERAL IDENTIFICATION OF THE PROCUREMENT FOR WHICH THIS SPECIFICATION APPLIES

The effects of electromagnetic energy upon the nervous systems and on behavior.

b. CONTRACT PRESCRIBES SECURITY REQUIREMENTS WHICH ARE ADDITIONAL TO THOSE PRESCRIBED IN DD FORM 441 AND THE ISM ☐ YES ☒ NO

10. CONTRACT PERFORMANCE WILL REQUIRE	YES	NO	REMARKS
GRAPHIC ARTS SERVICES	<input checked="" type="checkbox"/>		
ACCESS TO CONTROLLED AREAS OR CLASSIFIED INFORMATION ONLY	<input checked="" type="checkbox"/>		
MANUFACTURE OF CLASSIFIED HARDWARE		<input checked="" type="checkbox"/>	
GENERATION, RECEIPT, OR CUSTODY OF CLASSIFIED DOCUMENTS OR OTHER MATERIAL	<input checked="" type="checkbox"/>		
ACCESS TO RESTRICTED DATA		<input checked="" type="checkbox"/>	
ACCESS TO CRYPTOGRAPHIC INFORMATION		<input checked="" type="checkbox"/>	
ACCESS TO COMMUNICATION ANALYSIS INFORMATION		<input checked="" type="checkbox"/>	
DEFENSE DOCUMENTATION CENTER OR DEFENSE INFORMATION ANALYSIS CENTER SERVICES MAY BE REQUESTED (If yes, see paragraph 1, app 1, Industrial Security Manual.)	<input checked="" type="checkbox"/>		

11. REFER ALL QUESTIONS PERTAINING TO CONTRACT SECURITY CLASSIFICATION SPECIFICATION TO THE OFFICIAL NAMED BELOW (NORMALLY, thru ACO (Item 14b); EMERGENCY, direct with written record of inquiry and response to ACO) (thru prime contractor for subcontracts)

a. PROGRAM/PROJECT MANAGER OR ACTIVITY (Name, Title, and Organization) Gilbert C. Tolhurst, Director
Physiological Psychology Programs

b. ADDRESS, TELEPHONE NUMBER AND OFFICE SYMBOL (Include ZIP Code) Office of Naval Research
800 N. Quincy Street, Arlington Va. 22217
202-692-4505 Code 454

NOTE: Original Specification (Item 4a) is authority for contractors to mark classified information. Revised and Final Specifications (Items 4b and c) are authority for contractors to remark the regraded classified information. Such actions by contractors shall be taken in accordance with the provisions of the Industrial Security Manual.

PROPOSED PUBLIC RELEASES SHALL BE SUBMITTED FOR APPROVAL PRIOR TO RELEASE

☐ DIRECT ☒ THROUGH (Specify)

Office of Naval Research, Department of the Navy, Code 454, Arlington, Virginia 22217

TO THE DIRECTORATE FOR SECURITY REVIEW, OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE (Public Affairs)* FOR REVIEW IN ACCORDANCE WITH PARAGRAPH 5a OF THE INDUSTRIAL SECURITY MANUAL.

*In the case of non-DoD user agencies, see footnote, paragraph 5a, Industrial Security Manual.

13. SECURITY CLASSIFICATION SPECIFICATIONS FOR THIS CONTRACT ARE SET FORTH BELOW (Check which are applicable):

☐ DD FORM 254C ATTACHED (heroby made a part of this specification).

☐ DOCUMENT(S) LISTED BELOW (heroby made part of this specification).

☒ AS STATED BELOW

Technical reports classified as high as SECRET may be supplied the contractor by ONR, DDC, other military agencies, and other DOD contractors. These reports may be retained for the duration of the contract unless no longer needed. When a report has served its purpose it should be destroyed in accordance with current security regulations, or returned to the originating activity (if required). Upon completion of the contract all remaining classified material will be destroyed in accordance with current security regulations unless retention has been requested and authorized in accordance with paragraph 5 of the Industrial Security Manual.

Technical reports may be generated as high as Confidential under this contract.

CONTRACT SECURITY CLASSIFICATION SPECIFICATIONS FOR SUBCONTRACTS ISSUING FROM THIS CONTRACT WILL BE APPROVED BY THE OFFICIAL NAMED IN ITEM 14b BELOW:

REQUIRED DISTRIBUTION:

- ☒ PRIME CONTRACTOR (Item 6a)
☒ COGNIZANT SECURITY OFFICE (Item 6b)
☒ ADMINISTRATIVE CONTRACTING OFFICE (Item 14b)
☐ MATERIAL INSPECTOR
☐ DIRECTOR, FEDERAL BUREAU OF INVESTIGATION
 WASHINGTON, D.C. (Only for Items 2a and 2b)
 (Attachments hereto not included.)
☐ SUBCONTRACTOR (Item 7a)
☐ COGNIZANT SECURITY OFFICE (Item 7b)

ADDITIONAL DISTRIBUTION:

- ☒ Code 454
☒ File copy

14. THIS CONTRACT SECURITY CLASSIFICATION SPECIFICATION AND ATTACHMENTS REFERENCED HEREIN, APPROVED BY THE USER AGENCY CONTRACTING OFFICER OR HIS REPRESENTATIVE NAMED BELOW:

SIGNATURE

Harry L. Rarity

TYPED NAME AND TITLE OF APPROVING OFFICIAL
 CONTRACTING OFFICER

a. APPROVING OFFICIAL'S ACTIVITY AND ADDRESS (Include ZIP Code)
 Office of Naval Research, Procurement Services
 Arlington, Virginia 22217

b. NAME AND ADDRESS OF ADMINISTRATIVE CONTRACTING OFFICE (Include ZIP Code)

DCASR/Philadelphia

STANDARD FORM 30, JULY 1966 GENERAL SERVICES ADMINISTRATION FED. PROC. REG. (41 CFR) 1-16.101		AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT							
1. AMENDMENT/MODIFICATION NO. FO0004		2. EFFECTIVE DATE 7ONOV15		3. REQUISITION/PURCHASE REQUEST NO. NR 144-246/10-2-70 454			4. PROJECT NO. (if applicable) N. A.		
5. ISSUED BY PROCURING CONTRACTING OFFICER OFFICE OF NAVAL RESEARCH DEPARTMENT OF THE NAVY ARLINGTON, VIRGINIA 22217		CODE N00014		6. ADMINISTERED BY (If other than block 5) SCD-B Commander, Defense Contract Administration Services Region Post Office Box 7478 Philadelphia, Pennsylvania 19101			CODE S3910A		
7. CONTRACTOR NAME AND ADDRESS Randomline, Inc. Old York and Moreland Roads Willow Grove, Pennsylvania 19090		CODE		FACILITY CODE		8. <input type="checkbox"/> AMENDMENT OF SOLICITATION NO. N. A. DATED _____ (See block 9) <input checked="" type="checkbox"/> MODIFICATION OF CONTRACT/ORDER N00014-69-C-0181 NO. _____ DATED 69 Feb 15 (See block 11)			
9. THIS BLOCK APPLIES ONLY TO AMENDMENTS OF SOLICITATIONS (N. A.) <input type="checkbox"/> The above numbered solicitation is amended as set forth in block 12. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended, <input type="checkbox"/> is not extended. Offerors must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation, or as amended, by one of the following methods: (a) By signing and returning _____ copies of this amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE ISSUING OFFICE PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If, by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided such telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.									
10. ACR	APPROPRIATION SYMBOL AND SUBHEAD	OBJ. CLASS.	BUREAU CONTROL NO.	SUB-ALLOT.	AUTHOR'S ACCTG. ACT	TRANS. TYPE	PROPERTY ACCTG. ACT	COST CODE	AMOUNT
AD	17X1319.2415 Req. No. 03542-03542-1-0129	025	74995	0	065872	2B	000000	000000000000	\$30,326.00
11. THIS BLOCK APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS (a) <input type="checkbox"/> This Change Order is issued pursuant to _____ The Changes set forth in block 12 are made to the above numbered contract/order. (b) <input type="checkbox"/> The above numbered contract/order is modified to reflect the administrative changes (such as changes in paying office, appropriation data, etc.) set forth in block 12. (c) <input checked="" type="checkbox"/> This Supplemental Agreement is entered into pursuant to authority of 10 U.S.C. 2304 (a) (1) It modifies the above numbered contract as set forth in block 12.									
12. DESCRIPTION OF AMENDMENT/MODIFICATION It is the desire of the Government and the Contractor that the scope of work under Contract N00014-69-C-0181 be expanded, such expansion to include analysis of unique sensory systems. To accomplish this, there are hereby provided a revision in the description of the work and an increase in the total price of said contract. In consideration of the foregoing, said contract, as modified, is hereby further modified as set forth in the pages attached hereto and made a part hereof.									
ORIGINAL EXECUTED COPY									
COMPLETION DATE: 14 FEBRUARY 1972 Except as provided herein, all terms and conditions of the document referenced in block 8, as heretofore changed, remain unchanged and in full force and effect.									
13. <input type="checkbox"/> CONTRACTOR/OFFEROR IS NOT REQUIRED TO SIGN THIS DOCUMENT <input checked="" type="checkbox"/> CONTRACTOR/OFFEROR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN 3 COPIES TO ISSUING OFFICE									
14. NAME OF CONTRACTOR/OFFEROR BY A R Zandle (Signature of person authorized to sign)					17. UNITED STATES OF AMERICA BY THURMAN H. LAUTENSCHLAGER (Signature of Contracting Officer)				
15. NAME AND TITLE OF SIGNER (Type or print) A R ZANDLE SEC TREAS			16. DATE SIGNED DEC 31, 1970		18. CONTRACT REVIEWED FOR FISCAL DATA AND SIGNATURES BY 1-8-71 FOR COMPTROLLER ONR			19. DATE SIGNED 1/21	

CONTRACT NUMBER: N00014-69-C-0181
MODIFICATION NUMBER: P00004

2. On the face page of the contract, in Block Number 21, delete the figure "\$62,882.00," and substitute in lieu thereof the figure "\$93,208.00."

3. Effective as of the date of this modification, delete the first sentence of Section A of the Schedule in its entirety and substitute in lieu thereof the following:

"This Schedule is established under, and constitutes a part of, Contract N00014-69-C-0181, consisting of: Face Page; Schedule; Exhibit A, dated ~~15 November 1970~~, and General Provisions pages 1 through 29, identified as 'C(P) - October 1969.'"

4. Effective as of the date of this modification, delete Section B of the Schedule in its entirety and substitute in lieu thereof the following:

"SECTION B - SPECIFICATION OF WORK

"Line

<u>Item No.</u>	<u>Supplies/Services</u>	<u>Amount</u>
0001	Scope of Work and Reports - See Exhibit A, dated 15 November 1970, attached hereto.	

EAM TITLE: BEHAVIORAL BIOPHYSICS."

5. Effective as of the date of this modification, delete paragraph (1) of Section E of the Schedule in its entirety and substitute in lieu thereof the following:

"(1) Except to the extent otherwise provided herein, the Government shall pay to the Contractor as full compensation for the performance of work hereunder, the total price specified in Block Number 21 on the face page hereof. Upon receipt of properly certified invoices and a certification by the Contract Administrator that status (progress) reports have been submitted in accordance with Section F, hereof, payments shall be made notwithstanding any provisions of clause 2 of the contract to the contrary, in accordance with Exhibit A, attached hereto and made a part hereof; provided, however, that the final payment shall not be made until the Scientific Officer has received the final report from the Contractor and has certified receipt and acceptance thereof to the Contract Administrator."

6. Effective as of the date of this modification, delete Section F of the Schedule in its entirety and substitute in lieu thereof the following:

"SECTION F - REPORTS

"(1) The Contractor shall submit not more than fifty (50) copies of status reports to the Scientific Officer on the dates specified in Exhibit A, and not more than one hundred (100) copies of a final technical report to be distributed in accordance with the following distribution list:

CONTRACT NUMBER: N00014-69-C-0181
 MODIFICATION NUMBER: P00004

<u>Addressee</u>	<u>Number of Copies</u>	
	<u>Unclassified</u>	<u>Classified</u>
Scientific Officer	1	1
Cognizant ONR Branch Office	1	1
Administrative Contracting Officer	1	1
Director, Naval Research Laboratory		
Washington, D. C. 20390		
Attention: Library, Code 2029 (ONRL)	6	0
Director, Naval Research Laboratory		
Washington, D.C. 20390		
Attention: Technical Information Division	6	1
Defense Documentation Center, Building 5,		
Cameron Station, Alexandria, Virginia 22314	20	20
Additional copies to be Distributed in accordance		
with instructions furnished by the Scientific		
Officer	65	65.

With the approval of the Scientific Officer, reprints of published articles may be distributed as technical reports. In the technical reports (including reprints) submitted hereunder, there shall be affixed a face page which shall contain a statement that "reproduction in whole or in part is permitted for any purpose of the United States Government," and a statement that the research was sponsored by the Office of Naval Research, including the ONR Contract Number and the ONR Contract authority identification number (NR-, Reqn., etc.). Where reports based upon research performed under this contract are published in scientific and technical journals or where news releases are issued with regard to the work performed under this contract, there shall be included in such publications and news releases an appropriate statement acknowledging that the research being reported was accomplished with the support of the Office of Naval Research.

"(2) The Contractor shall include a completed "Document Control Data -- R&D" form (DD Form 1473) as the first page of each copy of the technical report prepared under this contract. The form contains instructions for preparation. The cognizant Government Contract Administrator will provide assistance to the Contractor in obtaining the required forms. Administrative type reports, managerial (status) reports, and reprints submitted as technical reports are excluded from this requirement.

"(3) Unless otherwise authorized in writing by the Contracting Officer, reports submitted hereunder shall be reproduced only by duplicating processes and shall not exceed 5,000 production units of any page or a total of 25,000 production units of a multiple-page report. A production unit means one sheet, size 8 x 10 $\frac{1}{2}$ ", one side only, one color. Technical reports are subject to further duplication by the Government by photographic processes. This requirement will be observed during preparation and production of the reports. Specifically, (i) reproduced text material will be in the form of black characters on white opaque paper; (ii) half-tones will be kept to an absolute minimum consistent with the communication of scientific and technical information; black-and-white linework is preferred; linework will be sharp and clear, of consistent density, and reproduced on white opaque paper; and (iii) material presented in the form of charts, tables or graphs will appear in a final reproduced size large enough to be clearly legible. Graph coordinate rulings or grid lines will be spaced as far apart as practicable. Reprints of published technical articles are not within the scope of this paragraph (3)."

CONTRACT NUMBER: N00014-69-C-0181
MODIFICATION NUMBER: P00004

7. Add the following new Section G of the Schedule:

"SECTION G - PAYMENT INSTRUCTIONS FOR MULTIPLE FUND ACCOUNTING CITATIONS

"In making disbursements from multiple appropriations under this contract, the Disbursing Officer shall make disbursements of appropriations on a first-in, first-out basis, except that Appropriation ACR: AD shall be used only in connection with Exhibit Line Item A002."
↓ AE

This modification increases the total price of Contract N00014-69-C-0181 by \$30,326.00, which increase is chargeable against the Appropriation set forth on Page 1, hereof.

CONTRACT NUMBER: N00014-69-C-0181
 CONTRACT EXHIBIT: A
 CONTRACT LINE ITEM: 0001
 DATE: 15 November 1970

Item No. Supplies/Services

A001 The Contractor shall furnish the necessary personnel and facilities for and, in accordance with such instructions as may be issued by the Scientific Officer or his authorized representative within the scope of this contract, shall study the effects of exposure to radio frequency energy and ionized air on performance.

In accordance with the provisions of Section D and E of the Schedule, the Contractor is required to submit the following reports:

	<u>Type of Report</u>	<u>Due Date</u>	<u>Amount</u>	<u>ACR</u>
A001AA	Status Reports Covering Subline Items 1AA through 1AJ	From 15 February 1969 Through 15 December 1970	\$38,720.00	AA and AB
A001AB	Status Report	15 February 1971	\$ 3,490.00	AB
A001AC	Status Report	15 April 1971	\$ 3,545.00	AC
A001AD	Status Report	15 June 1971	\$ 3,545.00	AC
A001AE	Status Report	15 August 1971	\$ 3,545.00	AC
A001AF	Status Report	15 October 1971	\$ 3,545.00	AC
A001AG	Status Report	15 December 1971	\$ 3,545.00	AC
A001AH	Final Report	Due Not Later Than 14 April 1972	\$ 3,547.00	AC

A002 The Contractor shall initiate and complete an analytical review of unique sensory systems which selected animals use in obtaining information about objects in their environments. The review is designed to provide information such as: what is the nature of the mechanism; does the system have potential useful application in development of a technique for classifying an object (man, mine, etc.) in the water or on the bottom; can the system be modeled; do we have all the necessary data for modeling; if not identify data requirements; what are possible limitations; and what improvements might make the system more useful in classifying objects in water.

In accordance with the provisions of Section D and E of the Schedule, the Contractor is required to submit the following reports:

	<u>Type of Report</u>	<u>Due Date</u>	<u>Amount</u>	<u>ACR</u>
A002AA	Status Report	31 January 1971	\$7,581.00	AD
A002AB	Status Report	15 April 1971	\$7,581.00	AD
A002AC	Status Report	30 June 1971	\$7,581.00	AD
A002AD	Final Report	Due Not Later Than 31 October 1971	\$7,583.00	AD.

1. AMENDMENT/MODIFICATION NO. P003		2. EFFECTIVE DATE 20 Aug 5		3. REQUISITION/PURCHASE REQUEST NO. NR 144-246/5-27-70 454		4. PROJECT NO. (If applicable) N.A.	
5. ISSUED BY Procuring Contracting Officer Office of Naval Research Department of the Navy WASHINGTON, D.C. 20380 Arlington, Virginia 22217		CODE N00014		6. ADMINISTERED BY (If other than block 5) Commander, Defense Contract Administration Services Region Post Office Box 7478 Philadelphia, Pennsylvania 19101		CODE S3910A SCD-B	
7. CONTRACTOR NAME AND ADDRESS (Street, city, county, state, and ZIP Code) Randomline, Inc. Old York and Moreland Roads Willow Grove, Pennsylvania 19090		CODE 709653		FACILITY CODE 39		8. <input type="checkbox"/> AMENDMENT OF SOLICITATION NO. N.A. DATED _____ (See block 9) <input checked="" type="checkbox"/> MODIFICATION OF CONTRACT/ORDER NO. N00014-69-C-0181 DATED 69 Feb 15 (See block 11)	

9. THIS BLOCK APPLIES ONLY TO AMENDMENTS OF SOLICITATIONS (N.A.)

☐ The above numbered solicitation is amended as set forth in block 12. The hour and date specified for receipt of Offers ☐ is extended, ☐ is not extended.

Offerors must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation, or as amended, by one of the following methods:

(a) By signing and returning _____ copies of this amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE ISSUING OFFICE PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If, by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided such telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

10.	APPROPRIATION SYMBOL AND SUBHEAD	OBJ. CLASS	BUREAU CONTROL NO.	SUB- ALLOT.	AUTHOR'N ACCTG. ACT.	TRANS. TYPE	PROPERTY ACCTG. ACT.	COUNTRY	COST CODE	AMOUNT
AC	17X1319.1411	025	12501	0	000014	2B	000000	-	000000001K54	\$21,272.00

11. THIS BLOCK APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS

(a) ☐ This Change Order is issued pursuant to _____
The Changes set forth in block 12 are made to the above numbered contract/order.

(b) ☐ The above numbered contract/order is modified to reflect the administrative changes (such as changes in paying office, appropriation data, etc.) set forth in block 12.

(c) ☒ This Supplemental Agreement is entered into pursuant to authority of 10 U.S.C. 2804 (a) (1b)
It modifies the above numbered contract as set forth in block 12.

12. DESCRIPTION OF AMENDMENT/MODIFICATION

WHEREAS, Contract N00014-69-C-0181 was entered into as of 15 February 1969 between the Government and Randomline, Inc., for the purpose of providing that the Contractor perform a program of research; and

WHEREAS, it is desired that certain of the clauses in the General Provisions of said contract be revised to conform to applicable statutory and departmental requirements; and

WHEREAS, it is further desired that the said revisions be reflected in a single document, without making any substantive changes in existing rights and obligations of the Government and the Contractor under said contract.

NOW, THEREFORE, in consideration of the foregoing, said Contract N00014-69-C-0181, as modified, is hereby further modified as set forth in the pages attached hereto.

COMPLETION DATE: 24 February 1972

ORIGINAL EXECUTED COPY

Except as provided herein, all terms and conditions of the document referenced in block 8, as heretofore changed, remain unchanged and in full force and effect.

13. <input type="checkbox"/> CONTRACTOR/OFFEROR IS NOT REQUIRED TO SIGN THIS DOCUMENT		<input checked="" type="checkbox"/> CONTRACTOR/OFFEROR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN 3 COPIES TO ISSUING OFFICE	
14. NAME OF CONTRACTOR/OFFEROR BY <u>A R Zandle</u> (Signature of person authorized to sign)		17. UNITED STATES OF AMERICA BY <u>Jamy L Raitz</u> H. I. V. (Signature of Contracting Officer)	
15. NAME AND TITLE OF SIGNER (Type or print) A R ZANDLE SEC-TREAS		16. DATE SIGNED 14 AUG 1972	

18. CONTRACT REVIEWED FOR FISCAL DATA AND SIGNATURES BY 821-2044

19. DATE SIGNED 1/24/72

1. Effective as of the date of this modification, the General Provisions entitled "C(P) - October 1969," pages 1 through 29, are hereby substituted for the General Provisions entitled "C(P) - March 1967," pages 1 through 32, with "Alterations" thereto and all subsequent modifications thereto issued prior to this Modification Number P003.
2. It is the intention of the parties hereto that all references in the Schedule issued under this contract to any clause or clauses of the contract shall be deemed to refer to the corresponding or like clause or clauses of the General Provisions attached hereto.
3. Further, it is the desire of the Government and the Contractor that additional research on behavioral biophysics be performed. To accomplish this, there are hereby provided an increase in the total price and an extension in the period of performance of Contract N00014-69-C-0181. In consideration of the foregoing, said contract, as modified, is hereby further modified as follows:
 - (a) On the face page of the contract, in Block Number 21, delete the figure "\$41,610.00," and substitute in lieu thereof the figure "\$62,882.00."
 - (b) Effective as of the date of this modification, delete the first sentence of Section A of the Schedule in its entirety and substitute in lieu thereof the following:

"This Schedule is established under, and constitutes a part of, Contract N00014-69-C-0181, consisting of: face page; Schedule; and General Provisions pages 1 through 29, identified as 'C(P) - October 1969.'"
 - (c) Effective as of the date of this modification, Section B of the Schedule shall read as follows:

"SECTION B - SPECIFICATION OF WORK

<u>"Line Item</u> <u>No.</u>	<u>Supplies/Services</u>	<u>Amount</u>
1	The Contractor shall furnish the necessary personnel and facilities for and, in accordance with such instructions as may be issued by the Scientific Officer or his authorized representative within the scope of this contract, shall study the effects of exposure to radio frequency energy and ionized air on performance.	

EAM TITLE: BEHAVIORAL BIOPHYSICS

Line Item No.	Supplies/Services	Amount
1AA	- Reports through 15 August 1969	\$10,200.00
1AB	- Report of 15 October 1969	3,490.00
1AC	- Report of 15 December 1969	3,490.00
1AD	- Report of 15 February 1970	3,490.00
1AE	- Report of 15 April 1970	3,490.00
1AF	- Report of 15 June 1970	3,490.00
1AG	- Report of 15 August 1970	3,490.00
1AH	- Report - Due Not Later Than 15 October 1970	3,490.00
1AJ	- Report - Due Not Later Than 15 December 1970	3,490.00
1AK	- Report - Due Not Later Than 15 February 1971	3,490.00
1AL	- Report - Due Not Later Than 15 April 1971	3,545.00
1AM	- Report - Due Not Later Than 15 June 1971	3,545.00
1AN	- Report - Due Not Later Than 15 August 1971	3,545.00
1AP	- Report - Due Not Later Than 15 October 1971	3,545.00
1AQ	- Report - Due Not Later Than 15 December 1971	3,545.00
1AR	- Final Report - Due Not Later Than 14 April 1972	3,547.00
	TOTAL	\$62,882.00

The above subline items are to be submitted in accordance with Sections E and F of the Schedule."

(d) Delete Section C of the Schedule in its entirety and substitute in lieu thereof the following:

"SECTION C - PERIOD OF PERFORMANCE

"The performance of work hereunder shall commence on 15 February 1969, and shall be completed on 14 February 1972."

This modification increases the total price of Contract N00014-69-C-0181 by \$21,272.00, which increase is chargeable against the Appropriation set forth on Page 1, hereof.

(a) Definitions Used in this Clause.

(1) Subject Invention means any invention or discovery, whether or not patentable, conceived or first actually reduced to practice in the course of or under this contract. The term "Subject Invention" includes, but is not limited to, any art, method, process, machine, manufacture, design or composition of matter, or any new and useful improvement thereof, or any variety of plant, which is or may be patentable under the patent laws of the United States of America or any foreign country.

(2) Governmental purpose means the rights of the Government of the United States (including any agency thereof, state or domestic municipal government) to practice and have practiced (make or have made, use or have used, sell or have sold) any Subject Invention throughout the world by or on behalf of the Government of the United States.

(3) Contract means any contract, agreement, grant, or other arrangement, or subcontract entered into with or for the benefit of the Government where a purpose of the contract is the conduct of experimental, developmental, or research work.

(4) Subcontract and subcontractor mean any subcontract or subcontractor of the Contractor, any lower-tier subcontract or subcontractor under this contract.

(5) To bring to the point of practical application means to manufacture in the case of a composition or product, to practice in the case of a process, or to operate in the case of a machine or system and, in each case, under such conditions as to establish that the invention is being worked and that its benefits are reasonably accessible to the public.

(b) Rights Granted to the Government. Except as provided in (e) and (h) of this clause, the Contractor agrees to grant the Government all right, title and interest in and to each Subject Invention (made by the Contractor), subject to the reservation of a nonexclusive and royalty-free license to the Contractor. The license shall extend to existing and future associated and affiliated companies, if any, within the corporate structure of which the Contractor is a part and shall be assignable to the successor of that part of the Contractor's business to which such Invention pertains. Nothing contained in this Patent Rights clause shall be deemed to grant any rights with respect to any invention other than a Subject Invention.

(c) Invention Disclosures and Reports.

(1) With respect to Subject Inventions (made by the Contractor), except those which are obviously unpatentable under the patent laws of the United States, the Contractor shall furnish to the Contracting Officer:

(i) a written disclosure of each invention within six (6) months after conception or first actual reduction to practice, whichever occurs first under this contract, sufficiently complete in technical detail to convey to one skilled in the art to which the Invention pertains a clear understanding of the nature, purpose, operation, and to the extent known the physical, chemical, or electrical characteristics of the Invention; when unable to submit a complete disclosure, the Contractor shall within said six (6) month period submit a disclosure which includes all such technical detail then known to him and shall, unless the Contracting Officer authorizes a different period, submit all other technical detail necessary to complete the disclosure within three (3) months of the expiration of said six (6) month period;

(ii) interim reports at least every twelve (12) months, the initial period of which shall commence with the date of this contract, each report listing all such Inventions conceived or first actually reduced to practice more than six (6) months prior to the date of the report and not listed on a prior interim report, or certifying that there are no such unreported Inventions;

(iii) prior to final settlement of this contract, a final report listing all such Inventions including all those previously listed in interim reports, or certifying that there are no such unreported Inventions (This Final Report and any Interim Report under (ii) above shall be submitted on DD Form 882 or other format acceptable to the Contracting Officer.);

(iv) information in writing, as soon as practicable, of the date and identity of any public use, sale, or publication of such Invention made by or known to the Contractor or of any contemplated publication by the Contractor;

(v) upon request, such duly executed instruments and other papers (prepared by the Government) as are deemed necessary to vest in the Government the rights granted it under this clause and to enable the Government to apply for and prosecute any patent application, in any country, covering such Invention where the Government has the right under this clause to file such application; and

(vi) upon request, an irrevocable power of attorney to inspect and make copies of each United States patent application filed by, or on behalf of, the Contractor covering any such Invention.

(2) With respect to each Subject Invention in which the Contractor has been granted greater rights under paragraph (h) of this clause, the Contractor agrees to provide written reports at reasonable intervals, when requested by the Government as to:

(i) the commercial use that is being made or is intended to be made of such Invention;

(ii) the steps taken by the Contractor to bring the Invention to the point of practical application, or to make the Invention available for licensing.

(d) Subcontracts.

(1) The Contractor shall, unless otherwise authorized or directed by the Contracting Officer, include a patent rights clause containing all the provisions of this Patent Rights clause except provision (g) in any subcontract hereunder where a purpose of the subcontract is the conduct of experimental, developmental, or research work. In the event of refusal by a subcontractor to accept this Patent Rights clause, or if in the opinion of the Contractor this Patent Rights clause is inconsistent with the policy set forth in ASPR 9-107.2 and 9-107.3, the Contractor:

(i) shall promptly submit a written report to the Contracting Officer setting forth the subcontractor's reasons for such refusal or the reasons Contractor is of the opinion that the inclusion of this clause would be so inconsistent, and other pertinent information which may expedite disposition of the matter; and

(ii) shall not proceed with the subcontract without the written authorization of the Contracting Officer.

The Contractor shall not, in any subcontract or by using such a subcontract as consideration therefor, acquire any rights to Subject Inventions for his own use (as distinguished from such rights as may be required solely to fulfill his contract obligations to the Government in the performance of this contract). Reports, instruments, and other information required to be furnished by a subcontractor to the Contracting Officer under the provisions of such a patent rights clause in a subcontract hereunder may, upon mutual consent of the Contractor and the subcontractor (or by direction of the Contracting Officer) be furnished to the Contractor for transmission to the Contracting Officer.

(2) The Contractor, at the earliest practicable date, shall also notify the Contracting Officer in writing of any subcontract containing a patent rights clause, furnish to the Contracting Officer a copy of such subcontract, and notify him when such subcontract is completed. It is understood that the Government is a third party beneficiary of any subcontract clause granting rights to the Government in Subject Inventions, and the Contractor hereby assigns to the Government all the rights that the Contractor would have to enforce the subcontractor's obligations for the benefit of the Government with respect to Subject Inventions. If there are no subcontracts containing patent rights clauses, a negative report is required. The Contractor shall not be obligated to enforce the agreements of any subcontractor hereunder relating to the obligations of the subcontractor to the Government in regard to Subject Inventions.

(e) Domestic Filing of Patent Applications by Contractor.

(1) If greater rights are granted in and to a Subject Invention pursuant to paragraph (h) of this clause, the Contractor shall file in due form and within six (6) months of the granting of such greater rights a United States Patent application claiming the Invention referred to in said paragraph, and shall furnish, as soon as practicable, the serial number and filing date of

each such application and the patent number of any resulting patent. As to each Invention in which the Contractor has been given greater rights, the Contractor shall notify the Contracting Officer at the end of the six (6) month period if he has failed to file or caused to be filed a patent application covering such invention. If the Contractor has filed or caused to be filed such an application within the six (6) month period, but elects not to continue prosecution of such application, he shall notify the Contracting Officer not less than sixty (60) days before the expiration of the response period. In either of the situations covered by the two immediately-preceding sentences, the Government shall be entitled to all rights, title and interest in such Invention subject to the reservation to the Contractor of a license as specified in paragraph (b).

(2) The following statement shall be included within the first paragraph of any patent application filed and any patent issued on an Invention which was made under Government contract or subcontract thereunder: "The Invention herein described was made in the course of or under a contract or subcontract thereunder (or grant) with (here state the Department or Agency)."

(f) Foreign Filing of Patent Applications.

(1) If the Contractor acquires greater rights in a Subject Invention pursuant to paragraph (h) of this clause and has filed a United States patent application claiming the Invention, the Contractor, or those other than the Government deriving rights from the Contractor, shall as between the parties hereto, have the exclusive right, subject to the rights of the Government under paragraph (i) of this clause, to file applications on the Inventions in each foreign country within:

(i) nine (9) months from the date a corresponding United States patent application is filed;

(ii) six (6) months from the date permission is granted to file foreign applications where such filing has been prohibited for security reasons; or

(iii) such longer period as may be approved by the Contracting Officer.

The Contractor shall notify the Contracting Officer of each foreign application filed and, upon written request of the Contracting Officer, furnish an English translation of such application, and, convey to the Government the entire right, title and interest in the Invention in each foreign country in which an application has not been filed within the time specified above, subject to the reservation of a royalty-free license as specified in paragraph (b).

(2) If the Contractor does not acquire greater rights pursuant to paragraph (h) of this clause and the Government determines not to file a patent application on any Subject Invention (made by the Contractor) in any particular foreign country, the Contracting Officer, upon request of the Contractor, may authorize the Contractor to file a patent application on such Invention in such foreign country and retain ownership thereof, subject to an irrevocable, non-exclusive and royalty-free license to practice and have practiced such Subject Invention throughout the world for Governmental purposes, including the practice of each such Subject Invention (i) in the manufacture, use, and disposition of any article or material, (ii) in the use of any method, or (iii) in the performance of any service, acquired by or for the Government or with funds derived through the Military Assistance Program of the Government or funds otherwise derived through the Government.

(g) Withholding of Payment.

(1) Final payment under this contract shall not be made before the Contractor delivers to the Contracting Officer the final report required by (c)(1)(iii), all written invention disclosures required by (c)(1)(i), and all information as to subcontracts required by (d)(2).

(2) If at any time before final payment under this contract the Contractor fails to deliver an interim report required by (c)(1)(ii), or a written invention disclosure required by (c)(1)(i), the Contracting Officer shall withhold from payment \$50,000 or five percent (5%), of the amount of this contract whichever is less (or whatever lesser sum is available if payments have exceeded ninety five percent (95%) of the amount of this contract) until the Contractor corrects all such failures.

(3) After payments total eighty percent (80%) of the amount of this contract, and if no amount is required to be withheld under (2) above, the Contracting Officer may, if he deems such action warranted because of the Contractor's performance under the Patent Rights clause of this contract or other known Government contracts, withhold from payment such sum as he considers appropriate, not exceeding \$50,000 or five percent (5%), of the amount of this contract whichever is less, to be held as a reserve until the Contractor delivers all the reports, disclosures, and information specified in (1) above. Subject to the five percent (5%) or \$50,000 limitation, the sum withheld under this subparagraph (3) may be increased or decreased from time to time at the discretion of the Contracting Officer.

(4) No amount shall be withheld under this paragraph (g) while the amount specified by this paragraph is being withheld under other provisions of this contract. The total amount withheld under (2) and (3) above shall not exceed \$50,000 or five percent (5%), of the amount of this contract whichever is less. The withholding of any amount or subsequent payment thereof to the Contractor shall not be construed as a waiver of any rights accruing to the Government under this contract. This paragraph shall not be construed as requiring the Contractor to withhold any amounts from a subcontractor to enforce compliance with the patent provisions of a subcontract. As used in this paragraph (g), "this contract" means "this contract as from time to time amended." In cost-type contracts, "amount of this contract" means "estimated cost of this contract."

(h) Contractor's Request for Greater Rights. The Contractor at the time of disclosing a Subject Invention pursuant to paragraph (c) of this clause, but not later than three (3) months thereafter, may submit in writing to the Contracting Officer, in accordance with applicable regulations, a request for greater rights in such Invention than the license reserved to the Contractor in paragraph (b) of this clause. Each such request shall include, but need not be limited to, information concerning the Contractor's intention and plan to bring the Invention to the point of commercial application. The Contracting Officer shall review the Contractor's request for greater rights and shall notify the Contractor whether, and the extent to which, such request is granted. Any rights granted to the Contractor shall be subject to the provisions of (i) of this clause.

(i) Reservation of Rights to the Government.

(1) In the event greater rights in any Subject Invention are vested in or granted to the Contractor pursuant to paragraph (h) above, such greater rights shall, as a minimum, be subject to an irrevocable, nonexclusive and royalty-free license to practice and have practiced each such Subject Invention (made by the Contractor) throughout the world for Governmental purposes, and including the practice of each such Subject Invention (i) in the manufacture, use, and disposition of any article or material, (ii) in the use of any method, or (iii) in the performance of any service, acquired by or for the Government or with funds derived through the Military Assistance Program of the Government or funds otherwise derived through the Government.

(2) In the event greater rights are vested in the Contractor, the Contractor further agrees to and does hereby grant to the Government the right to require the granting of a license to an applicant under any such Invention:

(i) on a nonexclusive, royalty-free basis, unless the Contractor, his licensee, or his assignee demonstrates to the Government, at its request, that effective steps have been taken within three (3) years after a patent issues on such Invention to bring the Invention to the point of practical application or that the Invention has been made available for licensing royalty-free or on terms that are reasonable in the circumstances, or can show cause why the title should be retained for a further period of time; or

(ii) royalty-free or on terms that are reasonable in the circumstances to the extent that the Invention is required for public use by Governmental regulations or as may be necessary to fulfill health needs, or for other public purposes stipulated in the Schedule of this contract.

(j) Right to Disclose Subject Inventions. The Government may duplicate and disclose reports and disclosures of Subject Inventions required to be furnished by the Contractor pursuant to this Patent Rights clause.

(k) Forfeiture of Rights in Unreported Subject Inventions. The Contractor shall forfeit to the Government all rights in any Subject Invention which he fails to report to the Contracting Officer at or prior to the time he (i) files or causes to be filed a United States or foreign application thereon, or (ii) submits the final report required by (c)(1)(iii) of this clause,

whichever is later; provided, that the Contractor shall not forfeit rights in a Subject Invention if (A) contending that the invention is not a Subject Invention, he nevertheless reports the invention and all the facts pertinent to his contention to the Contracting Officer within the time specified in (i) or (ii) above, or (B) he establishes that the failure to report was due entirely to causes beyond his control and without his fault or negligence. The Contractor shall be deemed to hold any such forfeited Subject Invention, and the patent applications and patents pertaining thereto, in trust for the Government pending written assignment of the Invention. The rights accruing to the Government under this paragraph shall be in addition to and shall not supersede any other rights which the Government may have in relation to unreported Subject Inventions. Nothing contained herein shall be construed to require the Contractor to report any invention which is not in fact a Subject Invention.

(1) Examination of Records Relating to Inventions. The Contracting Officer, or his authorized representative shall, until the expiration of three (3) years after final payment under this contract, have the right to examine any books, records, documents, and other supporting data of the Contractor which the Contracting Officer or his authorized representative shall reasonably deem directly pertinent to the discovery or identification of Subject Inventions or to compliance by the Contractor with the requirements of this clause.

DEPARTMENT OF DEFENSE CONTRACT SECURITY CLASSIFICATION SPECIFICATION <i>(Complete classified items by separate correspondence)</i>		THE REQUIREMENTS OF THE DOD IN THIS SECURITY MANUAL APPLY TO PERFORMANCE OF THIS CONTRACT. FACILITY SECURITY CLEARANCE REQUIRED FOR CONTRACT PERFORMANCE OR FOR ACCESS TO CLASSIFIED INFORMATION IS <u>None</u> .	
2. THIS SPECIFICATION IS FOR:	3. CONTRACT NUMBER OR OTHER IDENTIFICATION NUMBER <i>(Prime contracts must be shown for all subcontracts)</i>	DATE TO BE COMPLETED <i>(Estimated)</i>	4. THIS SPECIFICATION IS: <i>(See note below)</i>
<input checked="" type="checkbox"/> a. PRIME CONTRACT	a. PRIME N00014 69-0-0181		<input checked="" type="checkbox"/> a. ORIGINAL
<input type="checkbox"/> b. SUBCONTRACT <i>(Use Item 8 to identify further subcontracting)</i>	b. FIRST TIER SUBCONTRACT		<input type="checkbox"/> b. REVISED <i>(Supersedes all previous specifications)</i>
<input type="checkbox"/> c. INVITATION TO BID OR REQUEST FOR PROPOSAL	c. INVITATION FOR BID, REQUEST FOR PROPOSAL, OR REQUEST FOR QUOTE		<input type="checkbox"/> c. FINAL
5. IF THIS IS A FOLLOW-ON CONTRACT, ENTER PRECEDING CONTRACT NUMBER AND DATE COMPLETED <input type="checkbox"/> DOES NOT APPLY			
CONTRACT NUMBER		DATE COMPLETED	
6a. NAME AND ADDRESS OF PRIME CONTRACTOR <i>(Include ZIP Code)</i> Randomline, Inc. Old York & Moreland Roads Willow Grove, Pennsylvania 19010		b. NAME AND ADDRESS OF COGNIZANT SECURITY OFFICE <i>(Include ZIP Code)</i> Commander, Defense Contract Administration Services Region Post Office Box 7478 Philadelphia, Pennsylvania 19101	
7a. NAME AND ADDRESS OF FIRST TIER SUBCONTRACTOR <i>(If applicable)</i> <i>(Include ZIP Code)</i> N/A <i>(Use Item 8 to identify further subcontracting)</i>		b. NAME AND ADDRESS OF COGNIZANT SECURITY OFFICE <i>(Include ZIP Code)</i> N/A	
8. SUBCONTRACTING BEYOND FIRST TIER <i>(as appropriate)</i> N/A			
9a. GENERAL IDENTIFICATION OF THE PROCUREMENT FOR WHICH THIS SPECIFICATION APPLIES The Effects of electromagnetic energy upon the nervous systems and on behavior			
b. CONTRACT PRESCRIBES SECURITY REQUIREMENTS WHICH ARE ADDITIONAL TO THOSE PRESCRIBED IN DD FORM 441 AND THE ISM <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
10. CONTRACT PERFORMANCE WILL REQUIRE		YES	NO
GRAPHIC ARTS SERVICES		<input checked="" type="checkbox"/>	
ACCESS TO CONTROLLED AREAS OR CLASSIFIED INFORMATION ONLY		<input checked="" type="checkbox"/>	
MANUFACTURE OF CLASSIFIED HARDWARE			<input checked="" type="checkbox"/>
GENERATION, RECEIPT, OR CUSTODY OF CLASSIFIED DOCUMENTS OR OTHER MATERIAL		<input checked="" type="checkbox"/>	
ACCESS TO RESTRICTED DATA			<input checked="" type="checkbox"/>
ACCESS TO CRYPTOGRAPHIC INFORMATION			<input checked="" type="checkbox"/>
ACCESS TO COMMUNICATION ANALYSIS INFORMATION			<input checked="" type="checkbox"/>
DEFENSE DOCUMENTATION CENTER OR DEFENSE INFORMATION ANALYSIS CENTER SERVICES MAY BE REQUESTED <i>(If yes, see paragraph T, app I, Industrial Security Manual.)</i>		<input checked="" type="checkbox"/>	
11. REFER ALL QUESTIONS PERTAINING TO CONTRACT SECURITY CLASSIFICATION SPECIFICATION TO THE OFFICIAL NAMED BELOW <i>(NORMALLY, thru ACO (Item 14b); EMERGENCY, direct with written record of inquiry and response to ACO) (thru prime contractor for subcontracts)</i>			
a. PROGRAM/PROJECT MANAGER OR ACTIVITY <i>(Name, Title, and Organization)</i> Gilbert C. Tolhurst, Director		b. ADDRESS, TELEPHONE NUMBER AND OFFICE SYMBOL <i>(Include ZIP Code)</i> Physiological Psychology Programs Office of Naval Research OX6-1056	
NOTE: Original Specification (Item 4a) is authority for contractors to mark classified information. Revised and Final Specifications (Items 4b and c) are authority for contractors to remark the regraded classified information. Such actions by contractors shall be taken in accordance with the provisions of the Industrial Security Manual.			

12. INFORMATION PERTAINING TO CLASSIFIED CONTRACTS OR PROJECTS, EVEN THOUGH SUCH INFORMATION IS CONSIDERED UNCLASSIFIED, SHALL NOT BE RELEASED FOR PUBLIC DISSEMINATION EXCEPT AS PROVIDED BY THE INDUSTRIAL SECURITY MANUAL (paragraph 5n and Appendix IX).

PROPOSED PUBLIC RELEASES SHALL BE SUBMITTED FOR APPROVAL PRIOR TO RELEASE ☐ DIRECT ☒ THROUGH (Specify)

Physiological Psychology Programs
Office of Naval Research (Code 454), Washington, D.C. 20360

TO THE DIRECTORATE FOR SECURITY REVIEW, OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE (Public Affairs)* FOR REVIEW IN ACCORDANCE WITH PARAGRAPH 5n OF THE INDUSTRIAL SECURITY MANUAL.

*In the case of non-DoD user agencies, see footnote, paragraph 5n, Industrial Security Manual.

13. SECURITY CLASSIFICATION SPECIFICATIONS FOR THIS CONTRACT ARE SET FORTH BELOW (Check which are applicable):

- ☐ DD FORM 254C ATTACHED (hereby made a part of this specification).
☐ DOCUMENT(S) LISTED BELOW (hereby made part of this specification).
☒ AS STATED BELOW

Technical reports classified as high as Secret may be supplied the contractor by ONR, DDC, other military agencies, and other DOD contractors. These reports may be retained for the duration of the contract unless no longer needed. When a report has served its purpose it should be destroyed in accordance with current security regulations, or returned to the originating activity (if required). Upon completion of the contract all remaining classified material will be destroyed in accordance with current security regulations unless retention has been requested and authorized in accordance with paragraph 5 of the Industrial Security Manual.

CONTRACT SECURITY CLASSIFICATION SPECIFICATIONS FOR SUBCONTRACTS ISSUING FROM THIS CONTRACT WILL BE APPROVED BY THE OFFICIAL NAMED IN ITEM 14b BELOW:

REQUIRED DISTRIBUTION:

- ☒ PRIME CONTRACTOR (Item 6a)
☐ COGNIZANT SECURITY OFFICE (Item 6b)
☒ ADMINISTRATIVE CONTRACTING OFFICE (Item 14b)
☐ MATERIAL INSPECTOR
☐ DIRECTOR, FEDERAL BUREAU OF INVESTIGATION
WASHINGTON, D.C. (Only for Items 2a and 2b)
(Attachments hereto not included.)
☐ SUBCONTRACTOR (Item 7a)
☐ COGNIZANT SECURITY OFFICE (Item 7b)

ADDITIONAL DISTRIBUTION:

☒ ONR Code 454

☐

14. THIS CONTRACT SECURITY CLASSIFICATION SPECIFICATION AND ATTACHMENTS REFERENCED HEREIN, APPROVED BY THE USER AGENCY CONTRACTING OFFICER OR HIS REPRESENTATIVE NAMED BELOW:

SIGNATURE

L. C. Lincoln

TYPED NAME AND TITLE OF APPROVING OFFICIAL
Contracting Officer

a. APPROVING OFFICIAL'S ACTIVITY AND ADDRESS (Include ZIP Code)

Office of Naval Research, Department of the
Navy, Arlington, Virginia 22217

b. NAME AND ADDRESS OF ADMINISTRATIVE CONTRACTING OFFICE (Include ZIP Code)

Commander, Defense Contract
Post Office Box 7478, Philadelphia Pa. 19101

STANDARD FORM 30, JULY 1966 GENERAL SERVICES ADMINISTRATION FED. PROC. REG. (41 CFR) 1-16.101		AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				PAGE 1	OF 1																						
1. AMENDMENT/MODIFICATION NO. <div style="text-align: center;">P002</div>		2. EFFECTIVE DATE <div style="text-align: center;">70 Feb. 3</div>		3. REQUISITION/PURCHASE REQUEST NO. Code NR 144-246(42)12-22-69 451		PROJECT NO. (If applicable) N. A.																							
5. ISSUED BY Procuring Contracting Officer Office of Naval Research Department of the Navy Washington, D. C. 20360		CODE <div style="text-align: center;">00014</div>		6. ADMINISTERED BY (If other than block 5) CODE Commander; Defense Contract Administration Ser- vices Region, Philadelphia P. O. Box 7478 Philadelphia, Pennsylvania 19101																									
7. CONTRACTOR NAME AND ADDRESS <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> Randomline, Inc. York & Moreland Roads Willow Grove, Pennsylvania 19190 </div> <small>(Street, city, county, state, and ZIP Code)</small>		CODE <div style="text-align: center;">709653</div>		FACILITY CODE <div style="text-align: center;">1955 39</div>		8. <input type="checkbox"/> AMENDMENT OF SOLICITATION NO. N. A. DATED _____ (See block 9) <input checked="" type="checkbox"/> MODIFICATION OF CONTRACT/ORDER NO. N00014-69-C-0181 DATED 69 Feb. 15 (See block 11)																							
9. THIS BLOCK APPLIES ONLY TO AMENDMENTS OF SOLICITATIONS (N. A.) <input type="checkbox"/> The above numbered solicitation is amended as set forth in block 12. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended, <input type="checkbox"/> is not extended. Offerors must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation, or as amended, by one of the following methods: (a) By signing and returning _____ copies of this amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE ISSUING OFFICE PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If, by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided such telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.																													
<table border="1" style="width:100%; border-collapse: collapse; text-align: center;"> <tr> <th style="width:10%;">10.</th> <th style="width:15%;">APPROPRIATION SYMBOL AND SUBHEAD</th> <th style="width:10%;">OBJ. CLASS</th> <th style="width:15%;">BUREAU CONTROL NO.</th> <th style="width:10%;">SUB-ALLOT.</th> <th style="width:15%;">AUTHOR'N ACCTG. ACT.</th> <th style="width:10%;">TRANS. TYPE</th> <th style="width:15%;">PROPERTY ACCTG. ACT.</th> <th style="width:10%;">COUNTRY</th> <th style="width:15%;">COST CODE</th> <th style="width:15%;">AMOUNT</th> </tr> <tr> <td colspan="11">NOT APPLICABLE</td> </tr> </table>								10.	APPROPRIATION SYMBOL AND SUBHEAD	OBJ. CLASS	BUREAU CONTROL NO.	SUB-ALLOT.	AUTHOR'N ACCTG. ACT.	TRANS. TYPE	PROPERTY ACCTG. ACT.	COUNTRY	COST CODE	AMOUNT	NOT APPLICABLE										
10.	APPROPRIATION SYMBOL AND SUBHEAD	OBJ. CLASS	BUREAU CONTROL NO.	SUB-ALLOT.	AUTHOR'N ACCTG. ACT.	TRANS. TYPE	PROPERTY ACCTG. ACT.	COUNTRY	COST CODE	AMOUNT																			
NOT APPLICABLE																													
11. THIS BLOCK APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS (a) <input type="checkbox"/> This Change Order is issued pursuant to _____ The Changes set forth in block 12 are made to the above numbered contract/order. (b) <input type="checkbox"/> The above numbered contract/order is modified to reflect the administrative changes (such as changes in paying office, appropriation data, etc.) set forth in block 12. (c) <input checked="" type="checkbox"/> This Supplemental Agreement is entered into pursuant to authority of 10 U.S.C. 2304 (a) (1) It modifies the above numbered contract as set forth in block 12.																													
12. DESCRIPTION OF AMENDMENT/MODIFICATION In order to aid the research being conducted under Contract N00014-69-C-0181 it is the desire of the Government and the Contractor that certain items of Government-Furnished Property be loaned to the Contractor. To accomplish this, said contract as modified, is hereby further modified as set forth on the attached pages and made a part hereof.																													
Except as provided herein, all terms and conditions of the document referenced in block 8, as heretofore changed, remain unchanged and in full force and effect.																													
13. <input type="checkbox"/> CONTRACTOR/OFFEROR IS NOT REQUIRED TO SIGN THIS DOCUMENT <input checked="" type="checkbox"/> CONTRACTOR/OFFEROR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN 2 COPIES TO ISSUING OFFICE																													
14. NAME OF CONTRACTOR/OFFEROR BY <u>A. R. Zandle, Jr.</u> <small>(Signature of person authorized to sign)</small>				17. UNITED STATES OF AMERICA BY <u>C. W. Hartley</u> <small>(Signature of Contracting Officer)</small>																									
15. NAME AND TITLE OF SIGNER (Type or print) A R ZANDLE SEC TREAS		16. DATE SIGNED 2/11/70		18. NAME OF CONTRACTING OFFICER (Type or print) C. W. HARTLEY		19. DATE SIGNED 1970 FEB 5																							

CONTRACT NUMBER: N00014-69-C-0181
MODIFICATION NO.: P002

1. Effective as of the date of this Modification, add the following new Section to the Schedule:

"SECTION G - GOVERNMENT-FURNISHED PROPERTY

"The Government will furnish to the Contractor as Government-Furnished Property for use under this contract, the following:

<u>Item No.</u>	<u>Description</u>	<u>Cost</u>
1	Data Analysis System consisting of the following listed items incorporated into system: USN-1-0341 Camera Polaroid, Model 104 USN-6-0341 Computer of Average Transients, Model 1000 USN-7-0341 Transducer Stratham USN-10-0341 Senior Voithmyst USN-13-0341 Audio Generator, RCA Model WA-44-C USN-17-0341 Electrometer, Keithly 610A USN-20-0341 Power Supply, P-S-12/24 USN-25-0341 Culmotive Recorder, Gerbrand USN-33-0341 Scope Camera, Tektronix C-12 USN-36-0341 Stop Watch USN-49-0341 Camera USN-53-0341 Dynograph, Beckman Model 541, S/N 297 USN-54-0341 Biological Amplifier, Model DS2C USN-55-0341 Recorder, Esterline-Angus, Model A620A USN-56-0341 Dictating Machine, IBM, S/N 513583 USN-57-0341 Oscilloscope, , Tektronix Model 565 with (1) 2A61 and (1) 2A63 Amplifier USN-63-0341 Screen Room	

CONTRACT NUMBER: NO0014-69-C-0181
MODIFICATION NO.: PO02

<u>Item No.</u>	<u>Description</u>	<u>Cost</u>
2	Specimen Set-up System consisting of the following items incorporated into system:	-
	USN-3-0341 Pressure Cooker	
	USN-4-0341 Respiration Regulator	
	USN-5-0341 Pipette Puller, KOPF	
	USN-11-0341 Laryngoscope	
	USN-12-0341 Blood Pressure Gauge	
	USN-22-0341 Motor, Part of Rat Box, Newark CMO	
	USN-30-0341 1/2" Electric Drill, W/Stand, Craftsman	
	USN-31-0341 Bovine Electrocautery	
	USN-32-0341 Stereotoxic Instrument, KOPF 1204	
	USN-34-0341 Ministrue Micromanipulator, Model MM-3	
	USN-35-0341 Balance Scale, Ohaus, Model 3502	
	USN-38-0341 Microscope, B & L Model 313353-	
	USN-39-0341 Pump, Cole Parameter, 7064-5	
	USN-42-0341 Cat Skeleton	
	USN-43-0341 Vaporizer	
	USN-44-0341 Electrical Drill, Osteological	
	USN-45-0341 Ear Bars, (Part of USN-32-0341)	
	USN-46-0341 Regulator, 306-0071-800	
	USN-48-0341 Bright Spot Headlight	
	USN-58-0341 Transducer, Grass FT-03B	
	USN-60-0341 Balance Scale, SEKO, Model 1137	
	USN-61-0341 Laboratory Oven, LaPine 317-85	

CONTRACT NUMBER:
MODIFICATION NO.:

NO0014-69-C-0181
PO02

<u>Item No.</u>	<u>Description</u>	<u>Cost</u>
3	Behavioral Assay System consisting of the following items incorporated into system: USN-8-0341 Program Timer TM-15K391 USN-9-0341 L Band Oscillator, Applied Microwave USN-14-0341 Laboratory Simulator AEL Model 704A USN-15-0341 Photic Simulator, AEL Model 127 USN-16-0341 Stimulus Isolator, AEL Model 112 USN-18-0341 Power Oscillator, Microdet 417A USN-19-0341 Coax To Waveguide Adaptor, Scientific Atlanta USN-21-0341 Lo Power Terminator, Microlab TA5MB USN-23-0341 Coax Attenuator, Empore AT50-10 USN-24-0341 Coax Attenuator, Empire AT50-40 USN-26-0341 Lo-Pass Filter, H/P Model 360A USN-27-0341 Thermistor Mount, H/P Model 477B USN-29-0341 Bench Saw W/Motor Craftsman USN-37-0341 Programmer, Fohringer 1182M1 USN-47-0341 40 Drawer Parts Cabinet USN-51-0341 Programmer, Forhinger USN-52-0341 Programmer, Forhinger USN-59-0341 Pellet Dispenser, Forhinger USN-62-0341 Horn Antenna, Model 11-1-1	

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

PAGE 1 OF 1

AMENDMENT/MODIFICATION NO. P001	2. EFFECTIVE DATE 69 Sept. 8	3. REQUISITION/PURCHASE REQUEST NO. NR 144-246/8-6-69 (454)	4. PROJECT NO. (If applicable) N. A.
ISSUED BY Procuring Contracting Officer Office of Naval Research Department of the Navy Washington, D. C. 20360	CODE 00014	6. ADMINISTERED BY (If other than block 5) Commander, Defense Contract Administration Services Region Post Office Box 7478 Philadelphia, Pennsylvania 19101	

CONTRACTOR NAME AND ADDRESS Randomline, Inc. York & Moreland Roads Willow Grove, Pa. 19090	CODE 709653	FACILITY CODE 1955 39	AMENDMENT OF SOLICITATION NO. N. A. DATED _____ (See block 9) MODIFICATION OF CONTRACT/ORDER NO. N00014-69-C-0181 DATED 69 Feb. 15 (See block 11)
---	----------------	--------------------------	--

THIS BLOCK APPLIES ONLY TO AMENDMENTS OF SOLICITATIONS (N. A.)

☐ The above numbered solicitation is amended as set forth in block 12. The hour and date specified for receipt of Offers ☐ is extended, ☐ is not extended.

Offerors must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation, or as amended, by one of the following methods:

(a) By signing and returning _____ copies of this amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE ISSUING OFFICE PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If, by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided such telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

APPROPRIATION SYMBOL AND SUBHEAD	OBJ. CLASS	BUREAU CONTROL NO.	SUB-ALLOT.	AUTHOR'N ACCTG. ACT.	TRANS. TYPE	PROPERTY ACCTG. ACT.	COUNTRY	COST CODE	AMOUNT
17X1319.1401	25	12501	-	14	2B	-	-	1K54	\$20,930.00

THIS BLOCK APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS

- (a) ☐ This Change Order is issued pursuant to _____
The Changes set forth in block 12 are made to the above numbered contract/order.
- (b) ☐ The above numbered contract/order is modified to reflect the administrative changes (such as changes in paying office, appropriation data, etc.) set forth in block 12.
- (c) ☒ This Supplemental Agreement is entered into pursuant to authority of 10 U.S.C. 2304 (a) (1)
It modifies the above numbered contract as set forth in block 12.

DESCRIPTION OF AMENDMENT/MODIFICATION

It is the desire of the Government and the Contractor that additional research on behavioral biophysics be performed. To accomplish this, there are hereby provided an increase in the price of Contract N00014-69-C-0181, and an extension in the period of performance thereof.

In consideration of the foregoing, said contract is hereby modified as set forth in the pages attached hereto and made a part hereof.

ORIGINAL EXECUTED COPY

Except as provided herein, all terms and conditions of the document referenced in block 8, as heretofore changed, remain unchanged and in full force and effect.

<input type="checkbox"/> CONTRACTOR/OFFEROR IS NOT REQUIRED TO SIGN THIS DOCUMENT	<input checked="" type="checkbox"/> CONTRACTOR/OFFEROR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN 3 COPIES TO ISSUING OFFICE
NAME OF CONTRACTOR/OFFEROR <i>A. R. Zandle</i> (Signature of person authorized to sign)	17. UNITED STATES OF AMERICA BY <i>C. W. Hartley</i> C. W. HARTLEY (Signature of Contracting Officer)
NAME AND TITLE OF SIGNER (Type or print) A. R. ZANDLE SEC TREAS	16. DATE SIGNED 9-24-69
18. NAME OF CONTRACTING OFFICER (Type or print) C. W. HARTLEY 19. DATE SIGNED OCT 8 1969	

1. On the face page of the contract, in Block Number 21, delete the figure "\$20,680.00," and substitute in lieu thereof the figure "\$41,610.00."
2. Under Section B of the Schedule, delete Line Items No. 1AA through 1AF in their entirety and substitute in lieu thereof the following:

1AA - See Section F - through 15 August 1969	\$10,200.00
1AB - See Section F - 15 October 1969	3,490.00
1AC - See Section F - 15 December 1969	3,490.00
1AD - See Section F - 15 February 1970	3,490.00
1AE - See Section F - 15 April 1970	3,490.00
1AF - See Section F - 15 June 1970	3,490.00
1AG - See Section F - 15 August 1970	3,490.00
1AH - See Section F - 15 October 1970	3,490.00
1AI - See Section F - 15 December 1970	3,490.00
1AJ - See Section F - Upon completion of work and submission of final report	<u>3,490.00</u>
TOTAL	\$41,610.00."

3. Delete Section C of the Schedule in its entirety and substitute in lieu thereof the following:

"SECTION C - PERIOD OF PERFORMANCE

"The performance of work hereunder shall commence on 15 February 1969, and shall be completed on 14 February 1971."

4. Effective as of the date of this Modification, clause 42 of the contract, entitled "Patent Rights," shall read as follows:

"42. PATENT RIGHTS

"The following provisions shall apply to the work to be performed under this contract:

(a) Definitions Used in this Clause.

(1) Subject Invention means any invention or discovery, whether or not patentable, conceived or first actually reduced to practice in the course of or under this contract. The term "Subject Invention" includes, but is not limited to, any art, method, process, machine, manufacture, design or composition of matter, or any new and useful improvement thereof, or any variety of plant, which is or may be patentable under the patent laws of the United States of America or any foreign country.

(2) Governmental purpose means the rights of the Government of the United States (including any agency thereof, state or domestic municipal government) to practice and have practiced (make or have made, use or have used, sell or have sold) any Subject Invention throughout the world by or on behalf of the Government of the United States.

(3) Contract means any contract, agreement, grant, or other arrangement, or subcontract entered into with or for the benefit of the Government where a purpose of the contract is the conduct of experimental, developmental, or research work.

(4) Subcontract and subcontractor mean any subcontract or subcontractor of the Contractor, any lower-tier subcontract or subcontractor under this contract.

(5) To bring to the point of practical application means to manufacture in the case of a composition or product, to practice in the case of a process, or to operate in the case of a machine or system and, in each case, under such conditions as to establish that the invention is being worked and that its benefits are reasonably accessible to the public.

(b) Rights Granted to the Government. Except as provided in (e) and (h) of this clause, the Contractor agrees to grant the Government all right, title and interest in and to each Subject Invention (made by the Contractor), subject to the reservation of a nonexclusive and royalty-free license to the Contractor. The license shall extend to existing and future associated and affiliated companies, if any, within the corporate structure of which the Contractor is a part and shall be assignable to the successor of that part of the Contractor's business to which such Invention pertains. Nothing contained in this Patent Rights clause shall be deemed to grant any rights with respect to any invention other than a Subject Invention.

(c) Invention Disclosures and Reports.

(1) With respect to Subject Inventions (made by the Contractor), except those which are obviously unpatentable under the patent laws of the United States, the Contractor shall furnish to the Contracting Officer:

(i) a written disclosure of each invention within six (6) months after conception or first actual reduction to practice, whichever occurs first under this contract, sufficiently complete in technical detail to convey to one skilled in the art to which the Invention pertains a clear understanding of the nature, purpose, operation, and to the extent known the physical, chemical, or electrical characteristics of the Invention; when unable to submit a complete disclosure, the Contractor shall within said six (6) month period submit a disclosure which includes all such technical detail then known to him and shall, unless the Contracting Officer authorizes a different period, submit all other technical detail necessary to complete the disclosure within three (3) months of the expiration of said six (6) month period;

(ii) interim reports at least every twelve (12) months, the initial period of which shall commence with the date of this contract, each report listing all such Inventions conceived or first actually reduced to practice more than six (6) months prior to the date of the report and not listed on a prior interim report, or certifying that there are no such unreported Inventions;

(iii) prior to final settlement of this contract, a final report listing all such Inventions including all those previously listed in interim reports, or certifying that there are no such unreported Inventions (This Final Report and any Interim Report under (ii) above shall be submitted on DD Form 882 or other format acceptable to the Contracting Officer.);

(iv) information in writing, as soon as practicable, of the date and identity of any public use, sale, or publication of such Invention made by or known to the Contractor or of any contemplated publication by the Contractor;

(v) upon request, such duly executed instruments and other papers (prepared by the Government) as are deemed necessary to vest in the Government the rights granted it under this clause and to enable the Government to apply for and prosecute any patent application, in any country, covering such Invention where the Government has the right under this clause to file such application; and

(vi) upon request, an irrevocable power of attorney to inspect and make copies of each United States patent application filed by, or on behalf of, the Contractor covering any such Invention.

(2) With respect to each Subject Invention in which the Contractor has been granted greater rights under paragraph (h) of this clause, the Contractor agrees to provide written reports at reasonable intervals, when requested by the Government as to:

(i) the commercial use that is being made or is intended to be made of such Invention;

(ii) the steps taken by the Contractor to bring the Invention to the point of practical application, or to make the Invention available for licensing.

(d) Subcontracts.

(1) The Contractor shall, unless otherwise authorized or directed by the Contracting Officer, include a patent rights clause containing all the provisions of this Patent Rights clause except provision (g) in any subcontract hereunder where a purpose of the subcontract is the conduct of experimental, developmental, or research work. In the event of refusal by a subcontractor to accept this Patent Rights clause, or if in the opinion of the Contractor this Patent Rights clause is inconsistent with the policy set forth in ASPR 9-107.2 and 9-107.3, the Contractor:

(i) shall promptly submit a written report to the Contracting Officer setting forth the subcontractor's reasons for such refusal or the reasons Contractor is of the opinion that the inclusion of this clause would be so inconsistent, and other pertinent information which may expedite disposition of the matter; and

(ii) shall not proceed with the subcontract without the written authorization of the Contracting Officer.

The Contractor shall not, in any subcontract or by using such a subcontract as consideration therefor, acquire any rights to Subject Inventions for his own use (as distinguished from such rights as may be required solely to fulfill his contract obligations to the Government in the performance of this contract). Reports, instruments, and other information required to be furnished by a subcontractor to the Contracting Officer under the provisions of such a patent rights clause in a subcontract hereunder may, upon mutual consent of the Contractor and the subcontractor (or by direction of the Contracting Officer) be furnished to the Contractor for transmission to the Contracting Officer.

(2) The Contractor, at the earliest practicable date, shall also notify the Contracting Officer in writing of any subcontract containing a patent rights clause, furnish to the Contracting Officer a copy of such subcontract, and notify him when such subcontract is completed. It is understood that the Government is a third party beneficiary of any subcontract clause granting rights to the Government in Subject Inventions, and the Contractor hereby assigns to the Government all the rights that the Contractor would have to enforce the subcontractor's obligations for the benefit of the Government with respect to Subject Inventions. If there are no subcontracts containing patent rights clauses, a negative report is required. The Contractor shall not be obligated to enforce the agreements of any subcontractor hereunder relating to the obligations of the subcontractor to the Government in regard to Subject Inventions.

(e) Domestic Filing of Patent Applications by Contractor.

(1) If greater rights are granted in and to a Subject Invention pursuant to paragraph (h) of this clause, the Contractor shall file in due form and within six (6) months of the granting of such greater rights a United States Patent application claiming the Invention referred to in said paragraph, and shall furnish, as soon as practicable, the serial number and filing date of

each such application and the patent number of any resulting patent. As to each Invention in which the Contractor has been given greater rights, the Contractor shall notify the Contracting Officer at the end of the six (6) month period if he has failed to file or caused to be filed a patent application covering such invention. If the Contractor has filed or caused to be filed such an application within the six (6) month period, but elects not to continue prosecution of such application, he shall notify the Contracting Officer not less than sixty (60) days before the expiration of the response period. In either of the situations covered by the two immediately-preceding sentences, the Government shall be entitled to all rights, title and interest in such Invention subject to the reservation to the Contractor of a license as specified in paragraph (b).

(2) The following statement shall be included within the first paragraph of any patent application filed and any patent issued on an Invention which was made under Government contract or subcontract thereunder: "The Invention herein described was made in the course of or under a contract or subcontract thereunder (or grant) with (here state the Department or Agency)."

(f) Foreign Filing of Patent Applications.

(1) If the Contractor acquires greater rights in a Subject Invention pursuant to paragraph (h) of this clause and has filed a United States patent application claiming the Invention, the Contractor, or those other than the Government deriving rights from the Contractor, shall as between the parties hereto, have the exclusive right, subject to the rights of the Government under paragraph (i) of this clause, to file applications on the Inventions in each foreign country within:

(i) nine (9) months from the date a corresponding United States patent application is filed;

(ii) six (6) months from the date permission is granted to file foreign applications where such filing has been prohibited for security reasons; or

(iii) such longer period as may be approved by the Contracting Officer.

The Contractor shall notify the Contracting Officer of each foreign application filed and, upon written request of the Contracting Officer, furnish an English translation of such application, and, convey to the Government the entire right, title and interest in the Invention in each foreign country in which an application has not been filed within the time specified above, subject to the reservation of a royalty-free license as specified in paragraph (b).

(2) If the Contractor does not acquire greater rights pursuant to paragraph (h) of this clause and the Government determines not to file a patent application on any Subject Invention (made by the Contractor) in any particular foreign country, the Contracting Officer, upon request of the Contractor, may authorize the Contractor to file a patent application on such Invention in such foreign country and retain ownership thereof, subject to an irrevocable, non-exclusive and royalty-free license to practice and have practiced such Subject Invention throughout the world for Governmental purposes, including the practice of each such Subject Invention (i) in the manufacture, use, and disposition of any article or material, (ii) in the use of any method, or (iii) in the performance of any service, acquired by or for the Government or with funds derived through the Military Assistance Program of the Government or funds otherwise derived through the Government.

(g) Withholding of Payment.

(1) Final payment under this contract shall not be made before the Contractor delivers to the Contracting Officer the final report required by (c)(1)(iii), all written invention disclosures required by (c)(1)(i), and all information as to subcontracts required by (d)(2).

(2) If at any time before final payment under this contract the Contractor fails to deliver an interim report required by (c)(1)(ii), or a written invention disclosure required by (c)(1)(i), the Contracting Officer shall withhold from payment \$50,000 or five percent (5%), of the amount of this contract whichever is less (or whatever lesser sum is available if payments have exceeded ninety five percent (95%) of the amount of this contract) until the Contractor corrects all such failures.

(3) After payments total eighty percent (80%) of the amount of this contract, and if no amount is required to be withheld under (2) above, the Contracting Officer may, if he deems such action warranted because of the Contractor's performance under the Patent Rights clause of this contract or other known Government contracts, withhold from payment such sum as he considers appropriate, not exceeding \$50,000 or five percent (5%), of the amount of this contract whichever is less, to be held as a reserve until the Contractor delivers all the reports, disclosures, and information specified in (1) above. Subject to the five percent (5%) or \$50,000 limitation, the sum withheld under this subparagraph (3) may be increased or decreased from time to time at the discretion of the Contracting Officer.

(4) No amount shall be withheld under this paragraph (g) while the amount specified by this paragraph is being withheld under other provisions of this contract. The total amount withheld under (2) and (3) above shall not exceed \$50,000 or five percent (5%), of the amount of this contract whichever is less. The withholding of any amount or subsequent payment thereof to the Contractor shall not be construed as a waiver of any rights accruing to the Government under this contract. This paragraph shall not be construed as requiring the Contractor to withhold any amounts from a subcontractor to enforce compliance with the patent provisions of a subcontract. As used in this paragraph (g), "this contract" means "this contract as from time to time amended." In cost-type contracts, "amount of this contract" means "estimated cost of this contract."

(h) Contractor's Request for Greater Rights. The Contractor at the time of disclosing a Subject Invention pursuant to paragraph (c) of this clause, but not later than three (3) months thereafter, may submit in writing to the Contracting Officer, in accordance with applicable regulations, a request for greater rights in such Invention than the license reserved to the Contractor in paragraph (b) of this clause. Each such request shall include, but need not be limited to, information concerning the Contractor's intention and plan to bring the Invention to the point of commercial application. The Contracting Officer shall review the Contractor's request for greater rights and shall notify the Contractor whether, and the extent to which, such request is granted. Any rights granted to the Contractor shall be subject to the provisions of (i) of this clause.

(i) Reservation of Rights to the Government.

(1) In the event greater rights in any Subject Invention are vested in or granted to the Contractor pursuant to paragraph (h) above, such greater rights shall, as a minimum, be subject to an irrevocable, nonexclusive and royalty-free license to practice and have practiced each such Subject Invention (made by the Contractor) throughout the world for Governmental purposes, and including the practice of each such Subject Invention (i) in the manufacture, use, and disposition of any article or material, (ii) in the use of any method, or (iii) in the performance of any service, acquired by or for the Government or with funds derived through the Military Assistance Program of the Government or funds otherwise derived through the Government.

(2) In the event greater rights are vested in the Contractor, the Contractor further agrees to and does hereby grant to the Government the right to require the granting of a license to an applicant under any such Invention:

(i) on a nonexclusive, royalty-free basis, unless the Contractor, his licensees, or his assignee demonstrates to the Government, at its request, that effective steps have been taken within three (3) years after a patent issues on such Invention to bring the Invention to the point of practical application or that the Invention has been made available for licensing royalty-free or on terms that are reasonable in the circumstances, or can show cause why the title should be retained for a further period of time; or

(ii) royalty-free or on terms that are reasonable in the circumstances to the extent that the Invention is required for public use by Governmental regulations or as may be necessary to fulfill health needs, or for other public purposes stipulated in the Schedule of this contract.

(j) Right to Disclose Subject Inventions. The Government may duplicate and disclose reports and disclosures of Subject Inventions required to be furnished by the Contractor pursuant to this Patent Rights clause.

(k) Forfeiture of Rights in Unreported Subject Inventions. The Contractor shall forfeit to the Government all rights in any Subject Invention which he fails to report to the Contracting Officer at or prior to the time he (i) files or causes to be filed a United States or foreign application thereon, or (ii) submits the final report required by (c)(1)(iii) of this clause,

CONTRACT NUMBER: N00014-69-C-0181
MODIFICATION NO.: P001

whichever is later; provided, that the Contractor shall not forfeit rights in a Subject Invention if (A) contending that the invention is not a Subject Invention, he nevertheless reports the invention and all the facts pertinent to his contention to the Contracting Officer within the time specified in (i) or (ii) above, or (B) he establishes that the failure to report was due entirely to causes beyond his control and without his fault or negligence. The Contractor shall be deemed to hold any such forfeited Subject Invention, and the patent applications and patents pertaining thereto, in trust for the Government pending written assignment of the Invention. The rights accruing to the Government under this paragraph shall be in addition to and shall not supersede any other rights which the Government may have in relation to unreported Subject Inventions. Nothing contained herein shall be construed to require the Contractor to report any invention which is not in fact a Subject Invention.

(1) Examination of Records Relating to Inventions. The Contracting Officer, or his authorized representative shall, until the expiration of three (3) years after final payment under this contract, have the right to examine any books, records, documents, and other supporting data of the Contractor which the Contracting Officer or his authorized representative shall reasonably deem directly pertinent to the discovery or identification of Subject Inventions or to compliance by the Contractor with the requirements of this clause.

5. Effective as of the date of this Modification, the "ALTERATIONS IN CONTRACT (For C(P) - March 1967) of October 1968 and June 1969," which are attached hereto, are hereby substituted for the "ALTERATIONS IN CONTRACT (For C(P) - March 1967) of October 1968," which are attached to the General Provisions.

This Modification increases the total price of Contract N00014-69-C-0181 by \$20,930.00, which increase is chargeable against the Appropriation set forth on Page 1, hereof.

PATENT RIGHTS (DEFERRED) (1968 SEP) (5)

ALTERATIONS IN CONTRACT
(For C(P) - March 1967)
October 1968

The following Alterations are hereby made in the General Provisions of this contract:

1. MODIFICATIONS

(a) In clause 6, entitled "Government Property," make the following changes:

(i) In paragraph (c), in the sixth line, delete the first word "of," and substitute in lieu thereof the "or."

(ii) Delete paragraph (d) in its entirety and substitute in lieu thereof the following:

"(d) Property Administration. The Contractor shall comply with the provisions of Appendix B, Armed Services Procurement Regulation, as in effect on the date of the contract, which is hereby incorporated by reference and made a part of this contract. Material to be furnished by the Government shall be ordered or returned by the Contractor, when required, in accordance with the 'Manual for Military Standard Requisitioning and Issue Procedure (MILSTRIP) for Defense Contractors' (Appendix H, Armed Services Procurement Regulation) as in effect on the date of this contract, which Manual is hereby incorporated by reference and made a part of this contract."

(iii) Delete paragraph (g) in its entirety and substitute in lieu thereof the following:

"(g) Risk of Loss.

(1) Except for loss, destruction or damage resulting from a failure of the Contractor due to willful misconduct or lack of good faith of any of the Contractor's managerial personnel as defined herein, to maintain and administer the program for the maintenance, repair, protection and preservation of the Government property as required by paragraph (f) hereof, and except as specifically provided in the clause or clauses of this contract designated in the Schedule, the Contractor shall not be liable for loss or destruction of or damage to the Government property provided under this contract:

(i) caused by any peril while the property is in transit off the Contractor's premises; or

(ii) caused by any of the following perils while the property is on the Contractor's or subcontractor's premises, or on any other premises where such property may properly be located, or by removal therefrom because of any of the following perils --

(A) fire; lightning, windstorm, cyclone, tornado, hail; explosion; riot, riot attending a strike, civil commotion; vandalism and malicious

ALTERATIONS IN CONTRACT
(For C(P) - March 1967)
October 1968

mischievous; sabotage; aircraft or objects falling therefrom; vehicles running on land or tracks, excluding vehicles owned or operated by the Contractor or any agent or employee of the Contractor; smoke; sprinkler leakage; earthquake or volcanic eruption; flood, meaning thereby risking of a body of water; nuclear reaction, nuclear radiation or radioactive contamination; hostile or warlike action, including action in hindering, combating, or defending against an actual, impending or expected attack by any government or sovereign power (de jure or de facto), or by any authority using military, naval, or air forces, or by an agent of any such government, power, authority, or forces; or

(B) other peril, of a type not listed above, if such other peril is customarily covered by insurance (or by a reserve for self-insurance) in accordance with the normal practice of the Contractor, or the prevailing practice in the industry in which the Contractor is engaged with respect to similar property in the same general locale.

The perils as set forth in (i) and (ii) above are hereinafter called 'excepted perils.'

If the Contractor transfers Government property to the possession and control of a subcontractor, the transfer shall not affect the liability of the Contractor for loss or destruction of or damage to the property as set forth above. However, the Contractor shall require the subcontractor to assume the risk of, and be responsible for, any loss or destruction of or damage to the property while in the latter's possession or control, except to the extent that the subcontract, with the prior approval of the Contracting Officer, provides for the relief of the Contractor from such liability. In the absence of such approval, the subcontract shall contain appropriate provisions requiring the return of all Government property in as good condition as when received, except for reasonable wear and tear or for the utilization of the property in accordance with the provisions of the prime contract.

The term 'Contractor's managerial personnel' as used herein means the Contractor's directors, officers and any of his managers, superintendents, or other equivalent representatives who have supervision or direction of:

- (i) all or substantially all of the Contractor's business;
- (ii) all or substantially all of the Contractor's operation at any one plant or separate location at which the contract is being performed; or
- (iii) a separate and complete major industrial operation in connection with the performance of this contract.

(2) The Contractor represents that he is not including in the price hereunder, and agrees that he will not hereafter include in any price to the Government, any charge or reserve for insurance (including any self-insurance funds or reserve) covering loss or destruction of or damage to the Government property caused by any excepted peril.

ALTERATIONS IN CONTRACT
(For C(P) - March 1967)
October 1968

(3) Upon the happening of loss or destruction of or damage to any Government property caused by an excepted peril, the Contractor shall notify the Contracting Officer thereof, and shall communicate with the Loss and Salvage Organization, if any, now or hereafter designated by the Contracting Officer, and with the assistance of the Loss and Salvage Organization so designated (unless the Contracting Officer has directed that no such organization be employed), shall take all reasonable steps to protect the Government property from further damage, separate the damaged and undamaged Government property, put all the Government property in the best possible order, and furnish to the Contracting Officer a statement of:

- (i) the lost, destroyed, and damaged Government property;
- (ii) the time and origin of the loss, destruction, or damage;
- (iii) all known interests in commingled property of which the Government property is a part; and
- (iv) the insurance, if any, covering any part of or interest in such commingled property.

The Contractor shall be entitled to an equitable adjustment in the contract price for the expenditures made by him in performing his obligations under this subparagraph (3) (including charges made to the Contractor by the Loss and Salvage Organization, except any of such charges the payment of which the Government has, at its option, assumed directly), in accordance with the procedures provided for in the 'Changes' clause of this contract.

(4) With the approval of the Contracting Officer after loss or destruction of or damage to Government property, and subject to such conditions and limitations as may be imposed by the Contracting Officer, the Contractor may, in order to minimize the loss to the Government or in order to permit resumption of business or the like, sell for the account of the Government any item of Government property which has been damaged beyond practicable repair, or which is so commingled or combined with property of others, including the Contractor, that separation is impracticable.

(5) Except to the extent of any loss or destruction of or damage to Government property for which the Contractor is relieved of liability under the foregoing provisions of this clause, and except for reasonable wear and tear or depreciation, or the utilization of the Government property in accordance with the provisions of this contract, the Contractor assumes the risk of, and shall be responsible for, any loss or destruction of or damage to the Government property, and such property (other than that which is permitted to be sold) shall be returned to the Government in as good condition as when received by the Contractor in connection with this contract, or as repaired under paragraph (f) above.

ALTERATIONS IN CONTRACT
(For C(P) - March 1967)
October 1968

(6) In the event the Contractor is reimbursed or compensated for any loss or destruction of or damage to the Government property, caused by an excepted peril, he shall equitably reimburse the Government. The Contractor shall do nothing to prejudice the Government's rights to recover against third parties for any such loss, destruction or damage and, upon the request of the Contracting Officer, shall at the Government's expense, furnish to the Government all reasonable assistance and cooperation (including the prosecution of suit and the execution of instruments of assignment in favor of the Government) in obtaining recovery. In addition, where a subcontractor has not been relieved from liability for any loss or destruction of or damage to the Government property, the Contractor shall enforce the liability of the subcontractor for such loss or destruction of or damage to the Government property for the benefit of the Government."

(iv) Delete paragraph (j) in its entirety and substitute in lieu thereof the following:

"(j) Restoration of Contractor's Premises and Abandonment. Unless otherwise provided herein, the Government:

(i) may abandon any Government property in place, and thereupon all obligations of the Government regarding such abandoned property shall cease; and

(ii) has no obligation to the Contractor with regard to restoration or rehabilitation of the Contractor's premises, neither in case of abandonment (paragraph (j)(i) above), disposition on completion of need or of the contract (paragraph (i) above), nor otherwise, except for restoration or rehabilitation costs which are properly included in an equitable adjustment under paragraph (b) above."

ALTERATIONS IN CONTRACT
(For C(P) - March 1967)
June 1969

2. DELETIONS AND SUBSTITUTIONS

(a) Clause 12, entitled "Equal Opportunity," is hereby deleted in its entirety and the following substituted in lieu thereof:

"12. EQUAL OPPORTUNITY

"During the performance of this contract, the Contractor agrees as follows:

- (1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Contracting Officer setting forth the provisions of this non-discrimination clause.
- (2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.
- (3) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided by the agency Contracting Officer, advising the labor union or workers' representative of the Contractor's commitments under Section 202 of Executive Order 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (4) The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- (5) The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

ALTERATIONS IN CONTRACT
(For C(P) - March 1967)
June 1969

(6) In the event of the Contractor's noncompliance with the non-discrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be cancelled, terminated or suspended in whole or in part, and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(7) The Contractor will include the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions including sanctions for non-compliance; provided, however, that in the event the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States."

3. DELETIONS

(a) Clause 41, entitled "Order of Precedence," is intentionally deleted in its entirety.

GENERAL PROVISIONS

INDEX OF CLAUSES

<u>Clause No.</u>	<u>Title</u>	<u>Page No.</u>
1.	Definitions	1
2.	Payments	1
3.	Assignment of Claims	1
4.	Liens and Insurance	1
5.	Federal, State, and Local Taxes	2
6.	Government Property	3
7.	Examination of Records	7
8.	Termination for Convenience of the Government	7
9.	Disputes	10
10.	Military Security Requirements	10
11.	Renegotiation	11
12.	Equal Opportunity	11
13.	Contract Work Hours Standards Act - Overtime Compensation	12
14.	Convict Labor	13
15.	Buy American Act	13
16.	Default	13
17.	Priorities, Allocations, and Allotments	14
18.	Utilization of Small Business Concerns	14
19.	Officials Not to Benefit	14
20.	Covenant Against Contingent Fees	14
21.	Gratuities	15
22.	Authorization and Consent	15
23.	Changes	15
24.	Filing of Patent Applications	15
25.	Notice and Assistance Regarding Patent and Copyright Infringement	16
26.	Standards of Work	16
27.	Inspection	16
28.	Walsh-Healey Public Contracts Act	16
29.	Utilization of Concerns in Labor Surplus Areas	17
30.	Interest	17
31.	Competition in Subcontracting	17
32.	Technical Data - Withholding of Payment	17
33.	Limitation on Withholding of Payments	17
34.	Audit	18
35.	Price Reduction for Defective Cost or Pricing Data	18
36.	Subcontractor Cost and Pricing Data	19
37.	Rights in Technical Data	20
38.	Warranty of Technical Data	22
39.	Government Delay of Work	23
40.	Frequency Authorization	24
41.	Care of Laboratory Animals	24
42.	Title and Risk of Loss	24
43.	Patent Rights	

GENERAL PROVISIONS

1. DEFINITIONS

As used throughout this contract, the following terms shall have the meanings set forth below:

(a) The term "Head of the Agency" or "Secretary" means the Secretary, the Under Secretary, any Assistant Secretary, or any other head or assistant head of the executive or military department or other Federal agency; and the term "his duly authorized representative" means any person or persons or board (other than the Contracting Officer) authorized to act for the Head of the Agency or the Secretary.

(b) The term "Contracting Officer" means the person executing this contract on behalf of the Government, and any other officer or civilian employee who is a properly designated Contracting Officer; and the term includes, except as otherwise provided in this contract, the authorized representative of a Contracting Officer acting within the limits of his authority.

(c) Except as otherwise provided in this contract, the term "subcontracts" includes purchase orders under this contract.

(d) The term "Department" means the Department of the Navy.

2. PAYMENTS

The Contractor shall be paid, upon submission of proper invoices or vouchers, the prices stipulated herein for work delivered or rendered and accepted, less deductions, if any, as herein provided. Unless otherwise specified, payment will be made upon acceptance of any portion of the work delivered or rendered for which a price is separately stated in the contract.

3. ASSIGNMENT OF CLAIMS

(a) Pursuant to the provisions of the Assignment of Claims Act of 1940, as amended (31 U.S.C. 203, 41 U.S.C. 15), if this contract provides for payments aggregating \$1,000 or more, claims for monies due or to become due the Contractor from the Government under this contract may be assigned to a bank, trust company, or other financing institution, including any Federal lending agency, and may thereafter be further assigned and reassigned to any such institution. Any such assignment or reassignment shall cover all amounts payable under this contract and not already paid, and shall not be made to more than one party, except that any such assignment or reassignment may be made to one party as agent or trustee for two or more parties participating in such financing. Unless otherwise provided in this contract, payments to an assignee of any monies due or to become due under this contract shall not, to the extent provided in said Act, as amended, be subject to reduction or set-off.

(b) In no event shall copies of this contract or of any plans, specifications, or other similar documents relating to work under this contract, if marked "Top Secret," "Secret," or "Confidential," be furnished to any assignee of any claim arising under this contract or to any other person not entitled to receive the same. However, a copy of any part or all of this contract so marked may be furnished, or any information contained therein may be disclosed, to such assignee upon the prior written authorization of the Contracting Officer.

4. LIENS AND INSURANCE

(a) Any and all partial payments made hereunder shall be secured, when made, by a lien in favor of the Government upon the articles and things contracted for on account of all payments so made and on all material and other property acquired for or allocated to the performance of this contract, except to the extent that the Government, by virtue of any other provision of this contract, or otherwise, shall have valid title to such articles, things, materials, or other property as against other creditors of the Contractor. If such property is not identified by marking or segregation, the Government shall be deemed to have a lien upon a proportionate part of any mass of property with which such property is commingled. Any lien provided for by virtue of this clause is paramount to all other liens under the provisions of an Act approved August 22, 1911 (Public Law 41, 62nd Cong.; 37 Stat. 32; 10 U.S.C. 7521).

(b) The Contractor, to the extent determined necessary and practicable by the Contracting Officer or his authorized representative, shall identify by marking or segregation all property which is subject to a lien in favor of the Government by virtue of any provision of this contract in such a way as to indicate that it is subject to such lien and that it has been acquired for or allocated to the performance of this contract. In any event, the Contractor shall maintain adequate accounting control over such property on its books and records.

(c) In the event that the Contractor shall procure or maintain insurance upon any materials or other property upon which a lien exists in favor of the Government pursuant to the terms of this contract, the policy or policies shall contain a loss payable clause making losses payable to the Secretary of the Navy or order. Any payments thereunder shall inure to the benefit of the Government to the extent of any loss suffered by the Government and to the Contractor as to any remaining balance. The foregoing provisions shall not be deemed to require that the Contractor procure or maintain any such insurance.

5. FEDERAL, STATE, AND LOCAL TAXES

(a) As used throughout this clause, the term "contract date" means the date of this contract. As to additional supplies or services procured by modification of this contract, the term "contract date" means the date of such modification.

(b) Except as may be otherwise provided in this contract, the contract price includes, to the extent allocable to this contract, all Federal, State, and local taxes which, on the contract date:

(i) by Constitution, statute, or ordinance, are applicable to this contract, or to the transactions covered by this contract, or to property or interests in property; or

(ii) pursuant to written ruling or regulation, the authority charged with administering any such tax is assessing or applying to, and is not granting or honoring an exemption for, a contractor under this kind of contract, or the transactions covered by this contract, or property or interests in property.

(c) Except as may be otherwise provided in this contract, duties in effect on the contract date are included in the contract price, to the extent allocable to this contract.

(d) (1) If the Contractor is required to pay or bear the burden --

(i) of any tax or duty which either was not to be included in the contract price pursuant to the requirements of paragraphs (b) and (c), or of a tax or duty specifically excluded from the contract price by a provision of this contract; or

(ii) of an increase in rate of any tax or duty, whether or not such tax or duty was excluded from the contract price; or

(iii) of any interest or penalty on any tax or duty referred to in (i) or (ii) above;

the contract price shall be increased by the amount of such tax, duty, interest, or penalty allocable to this contract; provided, that the Contractor warrants in writing that no amount of such tax, duty, or rate increase was included in the contract price as a contingency reserve or otherwise; and provided, further, that liability for such tax, duty, rate increase, interest, or penalty was not incurred through the fault or negligence of the Contractor or his failure to follow instructions of the Contracting Officer.

(2) If the Contractor is not required to pay or bear the burden, or obtains a refund or drawback, in whole or in part, of any tax, duty, interest, or penalty which:

(i) was to be included in the contract price pursuant to the requirements of paragraphs (b) and (c);

(ii) was included in the contract price; or

(iii) was the basis of an increase in the contract price;

the contract price shall be decreased by the amount of such relief, refund, or drawback allocable to this contract, or the allocable amount of such relief, refund, or drawback shall be paid to the

Government, as directed by the Contracting Officer. The contract price also shall be similarly decreased if the Contractor, through his fault or negligence or his failure to follow instructions of the Contracting Officer, is required to pay or bear the burden, or does not obtain a refund or drawback of any such tax, duty, interest, or penalty. Interest paid or credited to the Contractor incident to a refund of taxes shall inure to the benefit of the Government to the extent that such interest was earned after the Contractor was paid or reimbursed by the Government for such taxes.

(3) Invoices or vouchers covering any adjustment of the contract price pursuant to this paragraph (d) shall set forth the amount thereof as a separate item and shall identify the particular tax or duty involved.

(4) This paragraph (d) shall not be applicable to social security taxes; income and franchise taxes, other than those levied on or measured by (i) sales or receipts from sales, or (ii) the Contractor's possession of, interest in, or use of property, title to which is in the Government; excess profits taxes; capital stock taxes; unemployment compensation taxes; or property taxes, other than such property taxes, allocable to this contract, as are assessed either on completed supplies covered by this contract, or on the Contractor's possession of, interest in, or use of property, title to which is in the Government.

(5) No adjustment of less than \$100 is required to be made in the contract price pursuant to this paragraph (d).

(e) Unless there does not exist any reasonable basis to sustain an exemption, the Government upon request of the Contractor, without further liability, agrees, except as otherwise provided in this contract, to furnish evidence appropriate to establish exemption from any tax which the Contractor warrants in writing was excluded from the contract price. In addition, the Contracting Officer may furnish evidence appropriate to establish exemption from any tax that may, pursuant to this clause, give rise to either an increase or decrease in the contract price. Except as otherwise provided in this contract, evidence appropriate to establish exemption from duties will be furnished only at the discretion of the Contracting Officer.

(f) (1) The Contractor shall promptly notify the Contracting Officer of all matters pertaining to Federal, State, and local taxes, and duties, that reasonably may be expected to result in either an increase or decrease in the contract price.

(2) Whenever an increase or decrease in the contract price may be required under this clause, the Contractor shall take action as directed by the Contracting Officer, and the contract price shall be equitably adjusted to cover the costs of such action, including any interest, penalty, and reasonable attorneys' fees.

6. GOVERNMENT PROPERTY

(a) Government-Furnished Property. The Government shall deliver to the Contractor, for use in connection with and under the terms of this contract, the property described as Government-furnished property in the Schedule or specifications, together with such related data and information as the Contractor may request and as may reasonably be required for the intended use of such property (hereinafter referred to as "Government-furnished property"). The delivery or performance dates for the supplies or services to be furnished by the Contractor under this contract are based upon the expectation that Government-furnished property suitable for use (except for such property furnished "as is") will be delivered to the Contractor at the times stated in the Schedule, or, if not so stated, in sufficient time to enable the Contractor to meet such delivery or performance dates. In the event that Government-furnished property is not delivered to the Contractor by such time or times, the Contracting Officer shall, upon timely written request made by the Contractor, make a determination of the delay, if any, occasioned the Contractor thereby, and shall equitably adjust the delivery or performance dates or the contract price, or both, and any other contractual provision affected by any such delay, in accordance with the procedures provided for in the clause of this contract entitled "Changes." Except for Government-furnished property furnished "as is," in the event the Government-furnished property is received by the Contractor in a condition not suitable for the intended use the Contractor shall, upon receipt thereof, notify the Contracting Officer of such fact and, as directed by the Contracting Officer, either (i) return such property at the Government's expense or otherwise dispose of the property, or (ii) effect repairs or modifications. Upon the completion of (i) or (ii) above, the Contracting Officer upon written request of the Contractor shall equitably adjust the delivery or performance dates or the contract price, or both, and any other contractual provision affected by the rejection or disposition, or the repair or modification, in accordance with the procedures provided for in the clause of this contract entitled "Changes." The foregoing provisions for

adjustment are exclusive and the Government shall not be liable to suit for breach of contract by reason of any delay in delivery of Government-furnished property or delivery of such property in a condition not suitable for its intended use.

(b) Changes in Government-Furnished Property.

(1) By notice in writing, the Contracting Officer may (i) decrease the property provided or to be provided by the Government under this contract, or (ii) substitute other Government-owned property for property to be provided by the Government, or to be acquired by the Contractor for the Government, under this contract. The Contractor shall promptly take such action as the Contracting Officer may direct with respect to the removal and shipping of property covered by such notice.

(2) In the event of any decrease in or substitution of property pursuant to subparagraph (1) above, or any withdrawal of authority to use property provided under any other contract or lease, which property the Government had agreed in the Schedule to make available for the performance of this contract, the Contracting Officer, upon the written request of the Contractor (or, if the substitution of property causes a decrease in the cost of performance, on his own initiative), shall equitably adjust such contractual provisions as may be affected by the decrease, substitution or withdrawal, in accordance with the procedures provided for in the "Changes" clause of this contract.

(c) Title. Title to all property furnished by the Government shall remain in the Government. In order to define the obligations of the parties under this clause, title to each item of facilities, special test equipment, and special tooling (other than that subject to a "Special Tooling" clause) acquired by the Contractor for the Government pursuant to this contract shall pass to and vest in the Government when its use in the performance of this contract commences, or upon payment therefor by the Government, whichever is earlier, whether or not title previously vested. All Government-furnished property, together with all property acquired by the Contractor title to which vests in the Government under this paragraph, is subject to the provisions of this clause and is hereinafter collectively referred to as "Government property." Title to Government property shall not be affected by the incorporation or attachment thereof to any property not owned by the Government, nor shall such Government property, or any part thereof, be or become a fixture or lose its identity as personalty by reason of affixation to any realty.

(d) Property Administration. The Contractor shall comply with the provisions of Appendix B, Armed Services Procurement Regulation, as in effect on the date of the contract, which is hereby incorporated by reference and made a part of this contract. Material to be furnished by the Government shall be ordered or returned by the Contractor, when required, in accordance with the "Manual for Military Standard Requisitioning and Issue Procedure (MILSTRIP) for Defense Contractors" (Appendix H, Armed Services Procurement Regulation) as in effect on the date of this contract, which Manual is hereby incorporated by reference and made a part of this contract.

(e) Use of Government Property. The Government property shall, unless otherwise provided herein or approved by the Contracting Officer, be used only for the performance of this contract.

(f) Utilization, Maintenance and Repair of Government Property. The Contractor shall maintain and administer, in accordance with sound industrial practice, and in accordance with applicable provisions of Appendix B, a program for the utilization, maintenance, repair, protection, and preservation of Government property, until disposed of by the Contractor in accordance with this clause. In the event that any damage occurs to Government property the risk of which has been assumed by the Government under this contract, the Government shall replace such items or the Contractor shall make such repair of the property as the Government directs; provided, however, that if the Contractor cannot effect such repair within the time required, the Contractor shall dispose of such property in the manner directed by the Contracting Officer. The contract price includes no compensation to the Contractor for the performance of any repair or replacement for which the Government is responsible, and an equitable adjustment will be made in any contractual provisions affected by such repair or replacement of Government property made at the direction of the Government, in accordance with the procedures provided for in the "Changes" clause of this contract. Any repair or replacement for which the Contractor is responsible under the provisions of this contract shall be accomplished by the Contractor at his own expense.

(g) Risk of Loss.

(1) Except for loss, destruction or damage resulting from a failure of the Contractor due to willful misconduct or lack of good faith of any of the Contractor's managerial personnel as defined herein, to maintain and administer the program for the utilization, maintenance, repair,

protection and preservation of the Government property as required by paragraph (f) hereof, and except as specifically provided in the clause or clauses of this contract designated in the Schedule, the Contractor shall not be liable for loss or destruction of or damage to the Government property provided under this contract:

(i) caused by any peril while the property is in transit off the Contractor's premises; or

(ii) caused by any of the following perils while the property is on the Contractor's or subcontractor's premises, or on any other premises where such property may properly be located, or by removal therefrom because of any of the following perils --

(A) fire; lightning, windstorm, cyclone, tornado, hail; explosion; riot, riot attending a strike, civil commotion; vandalism and malicious mischief; sabotage; aircraft or objects falling therefrom; vehicles running on land or tracks, excluding vehicles owned or operated by the Contractor or any agent or employee of the Contractor; smoke; sprinkler leakage; earthquake or volcanic eruption; flood, meaning thereby rising of a body of water; nuclear reaction, nuclear radiation or radioactive contamination; hostile or warlike action, including action in hindering, combating, or defending against an actual, impending or expected attack by any government or sovereign power (de jure or de facto), or by any authority using military, naval, or air forces, or by an agent of any such government, power, authority, or forces; or

(B) other peril, of a type not listed above, if such other peril is customarily covered by insurance (or by a reserve for self-insurance) in accordance with the normal practice of the Contractor, or the prevailing practice in the industry in which the Contractor is engaged with respect to similar property in the same general locale.

The perils as set forth in (i) and (ii) above are hereinafter called "excepted perils."

If the Contractor transfers Government property to the possession and control of a subcontractor, the transfer shall not affect the liability of the Contractor for loss or destruction of or damage to the property as set forth above. However, the Contractor shall require the subcontractor to assume the risk of, and be responsible for, any loss or destruction of or damage to the property while in the latter's possession or control, except to the extent that the subcontract, with the prior approval of the Contracting Officer, provides for the relief of the subcontractor from such liability. In the absence of such approval, the subcontract shall contain appropriate provisions requiring the return of all Government property in as good condition as when received, except for reasonable wear and tear or for the utilization of the property in accordance with the provisions of the prime contract.

The term "Contractor's managerial personnel" as used herein means the Contractor's directors, officers and any of his managers, superintendents, or other equivalent representatives who have supervision or direction of:

(i) all or substantially all of the Contractor's business;

(ii) all or substantially all of the Contractor's operation at any one plant or separate location at which the contract is being performed; or

(iii) a separate and complete major industrial operation in connection with the performance of this contract.

(2) The Contractor represents that he is not including in the price hereunder, and agrees that he will not hereafter include in any price to the Government, any charge or reserve for insurance (including any self-insurance funds or reserve) covering loss or destruction of or damage to the Government property caused by any excepted peril.

(3) Upon the happening of loss or destruction of or damage to any Government property caused by an excepted peril, the Contractor shall notify the Contracting Officer thereof, and shall communicate with the Loss and Salvage Organization, if any, now or hereafter designated by the Contracting Officer, and with the assistance of the Loss and Salvage Organization so designated (unless the Contracting Officer has directed that no such organization be employed), shall take all reasonable steps to protect the Government property from further damage, separate the damaged and undamaged Government property, put all the Government property in the best possible order, and furnish to the Contracting Officer a statement of:

(i) the lost, destroyed, and damaged Government property;

- (ii) the time and origin of the loss, destruction, or damage;
- (iii) all known interests in commingled property of which the Government property is a part; and
- (iv) the insurance, if any, covering any part of or interest in such commingled property.

The Contractor shall be entitled to an equitable adjustment in the contract price for the expenditures made by him in performing his obligations under this subparagraph (3) (including charges made to the Contractor by the Loss and Salvage Organization, except any of such charges the payment of which the Government has, at its option, assumed directly), in accordance with the procedures provided for in the "Changes" clause of this contract.

(4) With the approval of the Contracting Officer after loss or destruction of or damage to Government property, and subject to such conditions and limitations as may be imposed by the Contracting Officer, the Contractor may, in order to minimize the loss to the Government or in order to permit resumption of business or the like, sell for the account of the Government any item of Government property which has been damaged beyond practicable repair, or which is so commingled or combined with property of others, including the Contractor, that separation is impracticable.

(5) Except to the extent of any loss or destruction of or damage to Government property for which the Contractor is relieved of liability under the foregoing provisions of this clause, and except for reasonable wear and tear or depreciation, or the utilization of the Government property in accordance with the provisions of this contract, the Contractor assumes the risk of, and shall be responsible for, any loss or destruction of or damage to the Government property, and such property (other than that which is permitted to be sold) shall be returned to the Government in as good condition as when received by the Contractor in connection with this contract, or as repaired under paragraph (f) above.

(6) In the event the Contractor is reimbursed or compensated for any loss or destruction of or damage to the Government property, caused by an excepted peril, he shall equitably reimburse the Government. The Contractor shall do nothing to prejudice the Government's rights to recover against third parties for any such loss, destruction or damage and, upon the request of the Contracting Officer, shall at the Government's expense, furnish to the Government all reasonable assistance and cooperation (including the prosecution of suit and the execution of instruments of assignment in favor of the Government) in obtaining recovery. In addition, where a subcontractor has not been relieved from liability for any loss or destruction of or damage to the Government property, the Contractor shall enforce the liability of the subcontractor for such loss or destruction of or damage to the Government property for the benefit of the Government.

(h) Access. The Government, and any persons designated by it, shall at all reasonable times have access to the premises wherein any Government property is located, for the purpose of inspecting the Government property.

(i) Final Accounting and Disposition of Government Property. Upon the completion of this contract, or at such earlier dates as may be fixed by the Contracting Officer, the Contractor shall submit, in a form acceptable to the Contracting Officer, inventory schedules covering all items of Government property not consumed in the performance of this contract (including any resulting scrap) or not theretofore delivered to the Government, and shall prepare for shipment, deliver f.o.b. origin, or dispose of the Government property, as may be directed or authorized by the Contracting Officer. The net proceeds of any such disposal shall be credited to the contract price or shall be paid in such other manner as the Contracting Officer may direct.

(j) Restoration of Contractor's Premises and Abandonment. Unless otherwise provided herein, the Government:

(i) may abandon any Government property in place, and thereupon all obligations of the Government regarding such abandoned property shall cease; and

(ii) has no obligation to the Contractor with regard to restoration or rehabilitation of the Contractor's premises, neither in case of abandonment (paragraph (j)(i) above), disposition on completion of need or of the contract (paragraph (i) above), nor otherwise, except for restoration or rehabilitation costs which are properly included in an equitable adjustment under paragraph (b) above.

(k) Communications. All communications issued pursuant to this clause shall be in writing or in accordance with the "Manual for Military Standard Requisitioning and Issue Procedure (MILSTRIP) for Defense Contractors" (Appendix H, Armed Services Procurement Regulation).

7. EXAMINATION OF RECORDS

(a) The Contractor agrees that the Comptroller General of the United States or any of his duly authorized representatives shall, until the expiration of three years after final payment under this contract or of the time periods specified in Appendix M of the Armed Services Procurement Regulation, whichever expires earlier, have access to and the right to examine any books, documents, papers, and records of the Contractor, that directly pertain to, and involve transactions relating to this contract or subcontracts hereunder.

(b) The Contractor further agrees to include in all his subcontracts hereunder a provision to the effect that the subcontractor agrees that the Comptroller General of the United States or any of his duly authorized representatives shall, until expiration of three years after final payment under the subcontract or of the time periods specified in Appendix M of the Armed Services Procurement Regulation, whichever expires earlier, have access to and the right to examine any books, documents, papers, and records of such subcontractor that directly pertain to, and involve transactions relating to the subcontract. The term "subcontract" as used in the clause excludes: (i) purchase orders not exceeding \$2,500 and (ii) subcontracts or purchase orders for public utility services at rates established for uniform applicability to the general public.

8. TERMINATION FOR CONVENIENCE OF THE GOVERNMENT

(a) The performance of work under this contract may be terminated by the Government in accordance with this clause in whole, or from time to time in part, whenever the Contracting Officer shall determine that such termination is in the best interest of the Government. Any such termination shall be effected by delivery to the Contractor of a Notice of Termination specifying the extent to which performance of work under the contract is terminated, and the date upon which such termination becomes effective.

(b) After receipt of a Notice of Termination, and except as otherwise directed by the Contracting Officer, the Contractor shall:

(i) stop work under the contract on the date and to the extent specified in the Notice of Termination;

(ii) place no further orders or subcontracts for materials, services or facilities, except as may be necessary for completion of such portion of the work under the contract as is not terminated;

(iii) terminate all orders and subcontracts to the extent that they relate to the performance of work terminated by the Notice of Termination;

(iv) assign to the Government, in the manner, at the times, and to the extent directed by the Contracting Officer, all of the right, title, and interest of the Contractor under the orders and subcontracts so terminated, in which case the Government shall have the right, in its discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts;

(v) settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, with the approval or ratification of the Contracting Officer, to the extent he may require, which approval or ratification shall be final for all the purposes of this clause;

(vi) transfer title and deliver to the Government, in the manner, at the times, and to the extent, if any, directed by the Contracting Officer, (A) the fabricated or unfabricated parts, work in process, completed work, supplies, and other material produced as a part of, or acquired in connection with the performance of, the work terminated by the Notice of Termination, and (B) the completed or partially completed plans, drawings, information, and other property which, if the contract had been completed, would have been required to be furnished to the Government;

(vii) use his best efforts to sell, in the manner, at the times, to the extent, and at the price or prices directed or authorized by the Contracting Officer, any property of the types referred to in (vi) above; provided, however, that the Contractor (A) shall not be required to

extend credit to any purchaser, and (B) may acquire any such property under the conditions prescribed by and at a price or prices approved by the Contracting Officer; and provided, further, that the proceeds of any such transfer or disposition shall be applied in reduction of any payments to be made by the Government to the Contractor under this contract or shall otherwise be credited to the price or cost of the work covered by this contract or paid in such other manner as the Contracting Officer may direct;

(viii) complete performance of such part of the work as shall not have been terminated by the Notice of Termination; and

(ix) take such action as may be necessary, or as the Contracting Officer may direct, for the protection and preservation of the property related to this contract which is in the possession of the Contractor and in which the Government has or may acquire an interest.

At any time after expiration of the plant clearance period, as defined in Section VIII, Armed Services Procurement Regulation, as it may be amended from time to time, the Contractor may submit to the Contracting Officer a list, certified as to quantity and quality, of any or all items of termination inventory not previously disposed of, exclusive of items the disposition of which has been directed or authorized by the Contracting Officer, and may request the Government to remove such items or enter into a storage agreement covering them. Not later than fifteen (15) days thereafter, the Government will accept title to such items and remove them or enter into a storage agreement covering the same; provided, that the list submitted shall be subject to verification by the Contracting Officer upon removal of the items, or if the items are stored, within forty five (45) days from the date of submission of the list, and any necessary adjustment to correct the list as submitted shall be made prior to final settlement.

(c) After receipt of a Notice of Termination, the Contractor shall submit to the Contracting Officer his termination claim, in the form and with certification prescribed by the Contracting Officer. Such claim shall be submitted promptly but in no event later than one year from the effective date of termination, unless one or more extensions in writing are granted by the Contracting Officer, upon request of the Contractor made in writing within such one year period or authorized extension thereof. However, if the Contracting Officer determines that the facts justify such action, he may receive and act upon any such termination claim at any time after such one year period or any extension thereof. Upon failure of the Contractor to submit his termination claim within the time allowed, the Contracting Officer may, subject to any Settlement Review Board approvals required by Section VIII of the Armed Services Procurement Regulation in effect as of the date of execution of this contract, determine, on the basis of information available to him, the amount, if any, due to the Contractor by reason of the termination and shall thereupon pay to the Contractor the amount so determined.

(d) Subject to the provisions of paragraph (c), and subject to any Settlement Review Board approvals required by Section VIII of the Armed Services Procurement Regulation in effect as of the date of execution of this contract, the Contractor and the Contracting Officer may agree upon the whole or any part of the amount or amounts to be paid to the Contractor by reason of the total or partial termination of work pursuant to this clause, which amount or amounts may include a reasonable allowance for profit on work done; provided, that such agreed amount or amounts, exclusive of settlement costs, shall not exceed the total contract price as reduced by the amount of payments otherwise made and as further reduced by the contract price of work not terminated. The contract shall be amended accordingly, and the Contractor shall be paid the agreed amount. Nothing in paragraph (e) of this clause, prescribing the amount to be paid to the Contractor in the event of failure of the Contractor and the Contracting Officer to agree upon the whole amount to be paid to the Contractor by reason of the termination of work pursuant to this clause, shall be deemed to limit, restrict, or otherwise determine or affect the amount or amounts which may be agreed upon to be paid to the Contractor pursuant to this paragraph (d).

(e) In the event of the failure of the Contractor and the Contracting Officer to agree as provided in paragraph (d) upon the whole amount to be paid to the Contractor by reason of the termination of work pursuant to this clause, the Contracting Officer shall, subject to any Settlement Review Board approvals required by Section VIII of the Armed Services Procurement Regulation in effect as of the date of execution of this contract, pay to the Contractor the amounts determined by the Contracting Officer as follows, but without duplication of any amounts agreed upon in accordance with paragraph (d):

(i) for completed supplies accepted by the Government (or sold or acquired as provided in paragraph (b)(vii) above) and not theretofore paid for, a sum equivalent to the aggregate price for such supplies computed in accordance with the price or prices specified in the contract, appropriately adjusted for any saving of freight or other charges;

(ii) the total of --

(A) the costs incurred in the performance of the work terminated, including initial costs and preparatory expense allocable thereto, but exclusive of any costs attributable to supplies paid or to be paid for under paragraph (e)(i) hereof;

(B) The cost of settling and paying claims arising out of the termination of work under subcontracts or orders, as provided in paragraph (b)(v) above, which are properly chargeable to the terminated portion of the contract (exclusive of amounts paid or payable on account of supplies or materials delivered or services furnished by subcontractors or vendors prior to the effective date of the Notice of Termination, which amounts shall be included in the costs payable under (A) above; and

(C) a sum, as profit on (A) above, determined by the Contracting Officer pursuant to 8-303 of the Armed Services Procurement Regulation, in effect as of the date of execution of this contract, to be fair and reasonable; provided, however, that if it appears that the Contractor would have sustained a loss on the entire contract had it been completed, no profit shall be included or allowed under this subdivision (C) and an appropriate adjustment shall be made reducing the amount of the settlement to reflect the indicated rate of loss; and

(iii) the reasonable costs of settlement, including accounting, legal, clerical, and other expenses reasonably necessary for the preparation of settlement claims and supporting data with respect to the terminated portion of the contract and for the termination and settlement of subcontracts thereunder, together with reasonable storage, transportation, and other costs incurred in connection with the protection or disposition of property allocable to this contract.

The total sum to be paid to the Contractor under (i) and (ii) of this paragraph (e) shall not exceed the total contract price as reduced by the amount of payments otherwise made and as further reduced by the contract price of work not terminated. Except for normal spoilage, and except to the extent that the Government shall have otherwise expressly assumed the risk of loss, there shall be excluded from the amounts payable to the Contractor as provided in (e)(i) and (ii)(A) above, the fair value, as determined by the Contracting Officer, of property which is destroyed, lost, stolen, or damaged so as to become undeliverable to the Government, or to a buyer pursuant to paragraph (b)(vii).

(f) Any determination of costs under paragraph (c) or (e) hereof shall be governed by the principles for consideration of costs set forth in Section XV, Part 2, of the Armed Services Procurement Regulation, as in effect on the date of this contract.

(g) The Contractor shall have the right of appeal, under the clause of this contract entitled "Disputes," from any determination made by the Contracting Officer under paragraph (c) or (e) above, except that if the Contractor has failed to submit his claim within the time provided in paragraph (c) above and has failed to request extension of such time, he shall have no such right of appeal. In any case where the Contracting Officer has made a determination of the amount due under paragraph (c) or (e) above, the Government shall pay to the Contractor the following: (i) if there is no right of appeal hereunder or if no timely appeal has been taken, the amount so determined by the Contracting Officer, or (ii) if an appeal has been taken, the amount finally determined on such appeal.

(h) In arriving at the amount due the Contractor under this clause there shall be deducted (i) all unliquidated advance or other payments on account theretofore made to the Contractor, applicable to the terminated portion of this contract, (ii) any claim which the Government may have against the Contractor in connection with this contract, and (iii) the agreed price for, or the proceeds of sale of, any materials, supplies, or other things acquired by the Contractor or sold, pursuant to the provisions of this clause, and not otherwise recovered by or credited to the Government.

(i) If the termination hereunder be partial, prior to the settlement of the terminated portion of this contract, the Contractor may file with the Contracting Officer a request in writing for an equitable adjustment of the price or prices specified in the contract relating to the continued portion of the contract (the portion not terminated by the Notice of Termination), and such equitable adjustment as may be agreed upon shall be made in such price or prices.

(j) The Government may from time to time, under such terms and conditions as it may prescribe, make partial payments and payments on account against costs incurred by the Contractor in connection with the terminated portion of this contract whenever in the opinion of the Contracting

Officer the aggregate of such payments shall be within the amount to which the Contractor will be entitled hereunder. If the total of such payments is in excess of the amount finally agreed or determined to be due under this clause, such excess shall be payable by the Contractor to the Government upon demand, together with interest computed at the rate of 6 percent per annum, for the period from the date such excess payment is received by the Contractor to the date on which such excess is repaid to the Government; provided, however, that no interest shall be charged with respect to any such excess payment attributable to a reduction in the Contractor's claim by reason of retention or other disposition of termination inventory until ten days after the date of such retention or disposition, or such later date as determined by the Contracting Officer by reason of the circumstances.

(k) Unless otherwise provided for in this contract, or by applicable statute, the Contractor, from the effective date of termination and for a period of three years after final settlement under this contract, shall preserve and make available to the Government at all reasonable times at the office of the Contractor but without direct charge to the Government, all his books, records, documents, and other evidence bearing on the costs and expenses of the Contractor under this contract and relating to the work terminated hereunder, or, to the extent approved by the Contracting Officer, photographs, micro-photographs, or other authentic reproductions thereof.

9. DISPUTES

(a) Except as otherwise provided in this contract, any dispute concerning a question of fact arising under this contract which is not disposed of by agreement shall be decided by the Contracting Officer, who shall reduce his decision to writing and mail or otherwise furnish a copy thereof to the Contractor. The decision of the Contracting Officer shall be final and conclusive unless, within 30 days from the date of receipt of such copy, the Contractor mails or otherwise furnishes to the Contracting Officer a written appeal addressed to the Secretary. The decision of the Secretary or his duly authorized representative for the determination of such appeals shall be final and conclusive unless determined by a court of competent jurisdiction to have been fraudulent, or capricious, or arbitrary, or so grossly erroneous as necessarily to imply bad faith, or not supported by substantial evidence. In connection with any appeal proceeding under this clause, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of his appeal. Pending final decision of a dispute hereunder, the Contractor shall proceed diligently with the performance of the contract and in accordance with the Contracting Officer's decision.

(b) This "Disputes" clause does not preclude consideration of law questions in connection with decisions provided for in paragraph (a) above; provided, that nothing in this contract shall be construed as making final the decision of any administrative official, representative, or board on a question of law.

10. MILITARY SECURITY REQUIREMENTS

(a) The provisions of this clause shall apply to the extent that this contract involves access to information classified "Confidential" including "Confidential -- Modified Handling Authorized" or higher.

(b) The Government shall notify the Contractor of the security classifications of this contract and the elements thereof, and of any subsequent revisions in such security classification, by the use of a Security Requirements Check List (DD Form 254), or other written notification.

(c) To the extent the Government has indicated as of the date of this contract or thereafter indicates security classification under this contract as provided in paragraph (b) above, the Contractor shall safeguard all classified elements of this contract and shall provide and maintain a system of security controls within his own organization in accordance with the requirements of --

(i) the Security Agreement (DD Form 441), including the Department of Defense Industrial Security Manual for Safeguarding Classified Information as in effect on the date of this contract, and any modification to the Security Agreement for the purpose of adapting the Manual to the Contractor's business; and

(ii) any amendments to said Manual made after the date of this contract, notice of which has been furnished to the Contractor by the Security Office of the Military Department having security cognizance over the facility.

(d) Representatives of the Military Department having security cognizance over the facility and representatives of the contracting Military Department shall have the right to inspect at reasonable intervals the procedures, methods, and facilities utilized by the Contractor in complying

with the security requirements under this contract. Should the Government, through these representatives, determine that the Contractor is not complying with the security requirements of this contract the Contractor shall be informed in writing by the Security Office of the cognizant Military Department of the proper action to be taken in order to effect compliance with such requirements.

(e) If, subsequent to the date of this contract, the security classifications or security requirements under this contract are changed by the Government as provided in this clause and the security costs or time required for delivery under this contract are thereby increased or decreased, the contract price, delivery schedule, or both, and any other provision of the contract that may be affected, shall be subject to an equitable adjustment by reason of such increased or decreased costs. Any equitable adjustment shall be accomplished in the same manner as if such changes were directed under the "Changes" clause in this contract.

(f) The Contractor agrees to insert in all subcontracts hereunder which involve access to classified information, provisions which shall conform substantially to the language of this clause, including this paragraph (f) but excluding the last sentence of paragraph (e) of this clause.

(g) The Contractor also agrees that he shall determine that any subcontractor proposed by him for the furnishing of supplies and services which will involve access to classified information in the Contractor's custody has been granted an appropriate facility security clearance, which is still in effect, prior to being accorded access to such classified information.

11. RENEGOTIATION

(a) To the extent required by law, this contract is subject to the Renegotiation Act of 1951 (50 U.S.C. App. 1211, et seq.), as amended, and to any subsequent act of Congress providing for the renegotiation of contracts. Nothing contained in this clause shall impose any renegotiation obligation with respect to this contract or any subcontract hereunder which is not imposed by an act of Congress heretofore or hereafter enacted. Subject to the foregoing this contract shall be deemed to contain all the provisions required by section 104 of the Renegotiation Act of 1951, and by any such other act, without subsequent contract amendment specifically incorporating such provisions.

(b) The Contractor agrees to insert the provisions of this clause, including this paragraph (b), in all subcontracts, as that term is defined in section 103g of the Renegotiation Act of 1951, as amended.

12. EQUAL OPPORTUNITY

During the performance of this contract, the Contractor agrees as follows:

(1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Contracting Officer setting forth the provisions of this nondiscrimination clause.

(2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(3) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided by the agency Contracting Officer, advising the labor union or workers' representative of the Contractor's commitments under Section 202 of Executive Order 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(5) The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigations to ascertain compliance with such rules, regulations, and orders.

(6) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be cancelled, terminated or suspended in whole or in part, and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(7) The Contractor will include the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions including sanctions for non-compliance; provided, however, that in the event the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

13. CONTRACT WORK HOURS STANDARDS ACT - OVERTIME COMPENSATION

This contract, to the extent that it is of a character specified in the Contract Work Hours Standards Act (40 U.S.C. 327-330), is subject to the following provisions and to all other applicable provisions and exceptions of such Act and the regulations of the Secretary of Labor thereunder.

(a) Overtime Requirements. No Contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any laborer or mechanic in any workweek in which he is employed on such work to work in excess of eight hours in any calendar day or in excess of forty hours of such workweek on work subject to the provisions of the Contract Work Hours Standards Act unless such laborer or mechanic receives compensation at a rate not less than one and one-half times his basic rate of pay for all such hours worked in excess of eight hours in any calendar day or in excess of forty hours in such workweek, whichever is the greater number of overtime hours.

(b) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the provisions of paragraph (a), the Contractor and any subcontractor responsible therefor shall be liable to any affected employee for his unpaid wages. In addition, such Contractor and subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic employed in violation of the provisions of paragraph (a) in the sum of \$10 for each calendar day on which such employee was required or permitted to be employed on such work in excess of eight hours or in excess of his standard workweek of forty hours without payment of the overtime wages required by paragraph (a).

(c) Withholding for unpaid wages and liquidated damages. The Contracting Officer may withhold from the Government Prime Contractor, from any moneys payable on account of work performed by the Contractor or subcontractor, such sums as may administratively be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in the provisions of paragraph (b).

(d) Subcontracts. The Contractor shall insert paragraphs (a) through (d) of this clause in all subcontracts, and shall require their inclusion in all subcontracts of any tier.

(e) Records. The Contractor shall maintain payroll records containing the information specified in 29 CFR 516.2(a). Such records shall be preserved for three years from the completion of the contract.

14. CONVICT LABOR

In connection with the performance of work under this contract, the Contractor agrees not to employ any person undergoing sentence of imprisonment at hard labor.

15. BUY AMERICAN ACT

(a) In acquiring end products, the Buy American Act (41 U.S.C. 10a-d) provides that the Government give preference to domestic source end products. For the purpose of this clause:

(i) "components" means those articles, materials, and supplies, which are directly incorporated in the end products;

(ii) "end products" means those articles, materials, and supplies, which are to be acquired under this contract for public use; and

(iii) a "domestic source end product" means (A) an unmanufactured end product which has been mined or produced in the United States and (B) an end product manufactured in the United States if the cost of the components thereof which are mined, produced, or manufactured in the United States or Canada exceeds 50 percent of the cost of all of its components. For the purposes of this (a)(iii)(B), components of foreign origin of the same type or kind as the products referred to in (b)(ii) or (iii) of this clause shall be treated as components mined, produced, or manufactured in the United States.

(b) The Contractor agrees that there will be delivered under this contract only domestic source end products, except end products:

(i) which are for use outside the United States;

(ii) which the Government determines are not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities and of a satisfactory quality;

(iii) as to which the Secretary determines the domestic preference to be inconsistent with the public interest; or

(iv) as to which the Secretary determines the cost to the Government to be unreasonable.

(The foregoing requirements are administered in accordance with Executive Order No. 10582, dated December 17, 1954. So as to alleviate the impact of Department of Defense expenditures on the United States balance of international payments, bids offering domestic source end products normally will be evaluated against bids offering other end products by adding a factor of fifty percent (50%) to the latter, exclusive of import duties. Details of the evaluation procedure are set forth in Section VI of the Armed Services Procurement Regulation.)

16. DEFAULT

(a) The Government may, subject to the provisions of paragraph (c) of this clause, by written Notice of Defaults to the Contractor terminate the whole or any part of this contract in any one of the following circumstances:

(i) if the Contractor fails to perform the work called for by this contract within the time(s) specified herein or any extension thereof; or

(ii) if the Contractor fails to perform any of the other provisions of this contract, or so fails to prosecute the work as to endanger performance of this contract in accordance with its terms, and in either of these two circumstances does not cure such failure within a period of 10 days (or such longer period as the Contracting Officer may authorize in writing) after receipt of notice from the Contracting Officer specifying such failure.

(b) In the event the Government terminates this contract in whole or in part as provided in paragraph (a) of this clause, the Government may procure, upon such terms and in such manner as the Contracting Officer may deem appropriate, work similar to the work so terminated and the Contractor shall be liable to the Government for any excess costs for such similar work; provided, that the Contractor shall continue the performance of this contract to the extent not terminated under the provisions of this clause.

(c) Except with respect to defaults of subcontractors, the Contractor shall not be liable for any excess costs if the failure to perform the contract arises out of causes beyond the control and without the fault or negligence of the Contractor. Such causes may include, but are not restricted to, acts of God or of the public enemy, acts of the Government in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather; but in every case the failure to perform must be beyond the control and without the fault or negligence of the Contractor. If the failure to perform is caused by the default of a subcontractor, and if such default arises out of causes beyond the control of both the Contractor and subcontractor, and without the fault or negligence of either of them, the Contractor shall not be liable for any excess costs for failure to perform, unless the supplies or service to be furnished by the subcontractor were obtainable from other sources in sufficient time to permit the Contractor to meet the required delivery schedule or other performance requirements.

(d) If this contract is terminated as provided in paragraph (a) of this clause, the Government, in addition to any other rights provided in this clause, may require the Contractor to transfer title and deliver to the Government, in the manner and to the extent directed by the Contracting Officer any of the completed or partially completed work not theretofore delivered to, and accepted by, the Government and any other property, including contract rights, specifically produced or specifically acquired for the performance of such part of this contract as has been terminated; and the Contractor shall, upon the direction of the Contracting Officer, protect and preserve property in the possession of the Contractor in which the Government has an interest. The Government shall pay to the Contractor the contract price, if separately stated, for completed work accepted by the Government and the amount agreed upon by the Contractor and the Contracting Officer for (i) completed work for which no separate price is stated, (ii) partially completed work, (iii) other property described above which is accepted by the Government, and (iv) the protection and preservation of property. Failure to agree shall be a dispute concerning a question of fact within the meaning of the clause of this contract entitled "Disputes." The Government may withhold from amounts otherwise due the Contractor for such completed supplies or manufacturing materials such sum as the Contracting Officer determines to be necessary to protect the Government against loss because of outstanding liens or claims of former lien holders.

(e) If, after notice of termination of this contract under the provisions of this clause, it is determined for any reason that the Contractor was not in default under the provisions of this clause, or that the default was excusable under the provisions of this clause, the rights and obligations of the parties shall, if the contract contains a clause providing for termination for convenience of the Government, be the same as if the notice of termination had been issued pursuant to such clause.

(f) The rights and remedies of the Government provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or under this contract.

17. PRIORITIES, ALLOCATIONS, AND ALLOTMENTS

The Contractor shall follow the provisions of DMS Reg. 1 and all other applicable regulations and orders of the Business and Defense Services Administration in obtaining controlled materials and other products and materials needed to fill this order.

18. UTILIZATION OF SMALL BUSINESS CONCERNS

(a) It is the policy of the Government as declared by the Congress that a fair proportion of the purchases and contracts for supplies and services for the Government be placed with small business concerns.

(b) The Contractor agrees to accomplish the maximum amount of subcontracting to small business concerns that the Contractor finds to be consistent with the efficient performance of this contract.

19. OFFICIALS NOT TO BENEFIT

No member of or delegate to Congress, or resident commissioner, shall be admitted to any share or part of this contract, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

20. COVENANT AGAINST CONTINGENT FEES

The Contractor warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage,

or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Contractor for the purpose of securing business. For breach or violation of this warranty the Government shall have the right to annul this contract without liability or in its discretion, to deduct from the contract price or consideration, or otherwise recover, the full amount of such commission, percentage, brokerage or contingent fee.

21. GRATUITIES

(a) The Government may, by written notice to the Contractor, terminate the right of the Contractor to proceed under this contract if it is found, after notice and hearing, by the Secretary or his duly authorized representative, that gratuities (in the form of entertainment, gifts, or otherwise) were offered or given by the Contractor, or any agent or representative of the Contractor, to any officer or employee of the Government with a view toward securing a contract or securing favorable treatment with respect to the awarding or amending, or the making of any decisions with respect to the performing of such contract; provided, that the existence of the facts upon which the Secretary or his duly authorized representative makes such findings shall be in issue and may be reviewed in any competent court.

(b) In the event this contract is terminated as provided in paragraph (a) hereof, the Government shall be entitled (i) to pursue the same remedies against the Contractor as it could pursue in the event of a breach of the contract by the Contractor, and (ii) as a penalty in addition to any other damages to which it may be entitled by law, to exemplary damages in an amount (as determined by the Secretary or his duly authorized representative) which shall be not less than three nor more than ten times the costs incurred by the Contractor in providing any such gratuities to any such officer or employee.

(c) The rights and remedies of the Government provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or under this contract.

22. AUTHORIZATION AND CONSENT

The Government hereby gives its authorization and consent for all use and manufacture of any invention described in and covered by a patent of the United States in the performance of this contract or any part hereof or any amendment hereto or any subcontract hereunder (including any lower-tier subcontract).

23. CHANGES

The Contracting Officer may at any time, by a written order, and without notice to the sureties, if any, make changes within the general scope of this contract, in any one or more of the following: (i) drawings, designs, or specifications; (ii) method of shipment or packing; and (iii) place of inspection, delivery, or acceptance. If any such change causes an increase or decrease in the cost of, or the time required for performance of, this contract, or otherwise affects any other provisions of this contract, whether changed or not changed by any such order, an equitable adjustment shall be made (i) in the contract price or time of performance, or both, and (ii) in such other provisions of the contract as may be so affected, and the contract shall be modified in writing accordingly. Any claim by the Contractor for adjustment under this clause must be asserted within thirty (30) days from the date of receipt by the Contractor of the notification of change; provided, however, that the Contracting Officer, if he decides that the facts justify such action, may receive and act upon any such claim asserted at any time prior to final payment under this contract. Failure to agree to any adjustment shall be a dispute concerning a question of fact within the meaning of the clause of this contract entitled "Disputes." However, nothing in this clause shall excuse the Contractor from proceeding with the contract as changed.

24. FILING OF PATENT APPLICATIONS

(a) Before filing or causing to be filed a patent application in the United States disclosing any subject matter of this contract, which subject matter is classified "Secret" or higher, the Contractor shall, citing the thirty (30) days provision below, transmit the proposed application to the Contracting Officer for determination whether, for reasons of national security, such application should be placed under an order of secrecy or sealed in accordance with the provisions of 35 U.S.C. 181-188 or the issuance of a patent should be otherwise delayed under pertinent United States statutes or regulations; and the Contractor shall observe any instructions of the Contracting Officer with respect to the manner of delivery of the patent application to the United States Patent Office for filing, but the Contractor shall not be denied the right to file such

patent application. If the Contracting Officer shall not have given any such instructions within thirty (30) days from the date of mailing or other transmittal of the proposed application, the Contractor may file the application.

(b) The Contractor shall furnish to the Contracting Officer, at the time of or prior to the time when the Contractor files or causes to be filed a patent application in the United States disclosing any subject matter of this contract, which subject matter is classified "Confidential," a copy of such application for determination whether, for reasons of national security, such application should be placed under an order of secrecy or the issuance of a patent should be otherwise delayed under pertinent United States statutes or regulations.

(c) Where the subject matter of this contract is classified for reasons of security, the Contractor shall not file, or cause to be filed in any country, other than in the United States as provided in (a) and (b) of this clause, an application or registration for a patent containing any of said subject matter without first obtaining written approval of the Contracting Officer.

(d) When filing any patent application coming within the scope of this clause, the Contractor shall observe all applicable security regulations covering the transmission of classified subject matter, and shall also promptly furnish to the Contracting Officer the serial number, filing date, and name of country of any such patent application. When transmitting the application to the United States Patent Office, the Contractor shall by separate letter identify by agency and number the contract or contracts which require security classification markings to be placed on the application.

25. NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT

The provisions of this clause shall be applicable only if the amount of this contract exceeds \$10,000.

(a) The Contractor shall report to the Contracting Officer, promptly and in reasonable written detail, each notice or claim of patent or copyright infringement based on the performance of this contract of which the Contractor has knowledge.

(b) In the event of any claim or suit against the Government on account of any alleged patent or copyright infringement arising out of the performance of this contract or out of the use of any supplies furnished or work or services performed hereunder, the Contractor shall furnish to the Government, when requested by the Contracting Officer, all evidence and information in possession of the Contractor pertaining to such suit or claim. Such evidence and information shall be furnished at the expense of the Government except where the Contractor has agreed to indemnify the Government.

(c) This clause shall be included in all subcontracts.

26. STANDARDS OF WORK

The Contractor agrees that the performance of work and services pursuant to the requirements of this contract shall conform to high professional standards.

27. INSPECTION

The Government, through any authorized representatives, has the right, at all reasonable times, to inspect, or otherwise evaluate the work performed or being performed hereunder and the premises in which it is being performed. If any inspection, or evaluation is made by the Government on the premises of the Contractor or a subcontractor, the Contractor shall provide and shall require his subcontractors to provide all reasonable facilities and assistance for the safety and convenience of the Government representatives in the performance of their duties. All inspections and evaluations shall be performed in such a manner as will not unduly delay the work.

28. WALSH-HEALEY PUBLIC CONTRACTS ACT

If this contract is for the manufacture or furnishing of materials, supplies, articles, or equipment in an amount which exceeds or may exceed \$10,000 and is otherwise subject to the Walsh-Healey Public Contracts Act, as amended (41 U.S.C. 35-45), there are hereby incorporated by reference all representations and stipulations required by said Act and regulations issued thereunder by the Secretary of Labor, such representations and stipulations being subject to all applicable rulings and interpretations of the Secretary of Labor which are now or may hereafter be in effect.

29. UTILIZATION OF CONCERNS IN LABOR SURPLUS AREAS

It is the policy of the Government to place contracts with concerns which will perform such contracts substantially in or near sections of concentrated unemployment or underemployment as a certified-eligible concern or in areas of persistent or substantial labor surplus where this can be done, consistent with the efficient performance of the contract, at prices no higher than are obtainable elsewhere. The Contractor agrees to use his best efforts to place his subcontracts in accordance with this policy. In complying with the foregoing and with paragraph (b) of the clause of this contract entitled "Utilization of Small Business Concerns," the Contractor in placing his subcontracts shall observe the following order of preference: (i) certified concerns which are also small business concerns; (ii) other certified concerns; (iii) persistent labor surplus area concerns which are also small business concerns; (iv) other persistent labor surplus area concerns; (v) substantial labor surplus area concerns which are also small business concerns; (vi) other substantial labor surplus area concerns; and (vii) small business concerns which are not labor surplus area concerns.

30. INTEREST

Notwithstanding any other provision of this contract, unless paid within 30 days all amounts that become payable by the Contractor to the Government under this contract (net of any applicable tax credit under the Internal Revenue Code) shall bear interest at the rate of six percent per annum from the date due until paid and shall be subject to adjustments as provided by Part 6 of Appendix E of the Armed Services Procurement Regulation, as in effect on the date of this contract. Amounts shall be due upon the earliest one of (i) the date fixed pursuant to this contract; (ii) the date of the first written demand for payment, consistent with this contract, including demand consequent upon default termination; (iii) the date of transmittal by the Government to the Contractor of a proposed supplemental agreement to confirm completed negotiations fixing the amount; or (iv) if this contract provides for revision of prices, the date of written notice to the Contractor stating the amount of refund payable in connection with a pricing proposal or in connection with a negotiated pricing agreement not confirmed by contract supplement.

31. COMPETITION IN SUBCONTRACTING

The Contractor shall select subcontractors (including suppliers) on a competitive basis to the maximum practical extent consistent with the objectives and requirements of the contract.

32. TECHNICAL DATA - WITHHOLDING OF PAYMENT

If "Technical Data" (as defined in the clause of this contract entitled "Rights in Technical Data"), or any part thereof, is not delivered within the time specified by this contract or is deficient upon delivery (including having restrictive markings not specifically authorized by this contract), the Contracting Officer may, until such data is delivered or deficiencies are corrected, withhold payment to the Contractor of ten percent (10%) of the contract price unless a lesser withholding is specified in the Schedule. Payments shall not be withheld nor any other action taken pursuant to this clause where the Contractor's failure to make timely delivery or to deliver such data without deficiencies arises out of causes beyond the control and without the fault or negligence of the Contractor within the meaning of the clause hereof entitled "Default." The withholding of any amount or subsequent payment thereof to the Contractor shall not be construed as a waiver of any rights accruing to the Government under this contract.

33. LIMITATION ON WITHHOLDING OF PAYMENTS

If more than one clause or Schedule provision of this contract authorizes the temporary withholding of amounts otherwise payable to the Contractor for supplies delivered or services performed, the total of the amounts so withheld at any one time shall not exceed the greatest amount which may be withheld under any one such clause or Schedule provision at that time; provided, that this limitation shall not apply to --

- (i) withholdings pursuant to any clause relating to wages or hours of employees;
- (ii) withholdings not specifically provided for by this contract; and
- (iii) the recovery of overpayments.

34. AUDIT

(a) For purposes of verifying that certified cost or pricing data submitted, in conjunction with the negotiation of this contract or any contract change or other modification involving an amount in excess of \$100,000, were accurate, complete, and current, the Contracting Officer, or his authorized representatives, shall -- until the expiration of three years from the date of final payment under this contract or for the time periods specified in Appendix M of the Armed Services Procurement Regulation, whichever expires earlier -- have the right to examine those books, records, documents, papers and other supporting data which involve transactions related to this contract or which will permit adequate evaluation of the cost or pricing data submitted, along with the computations and projections used therein.

(b) The Contractor agrees to insert this clause including this paragraph (b) in all subcontracts hereunder which when entered into exceed \$100,000, so as to apply until the expiration of three years from the date of final payment under the subcontract or for the time periods specified in Appendix M of the Armed Services Procurement Regulation, whichever expires earlier, unless the price is based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation. When so inserted, changes shall be made to designate the higher-tier subcontractor at the level involved as the contracting and certifying party; to add "of the Government prime contract" after "Contracting Officer"; and to add, at the end of (a) above, the words, "provided that, in the case of any contract change or modification, such change or modification results from a change or other modification to the Government prime contract." In each such excepted subcontract hereunder which when entered into exceeds \$100,000, the Contractor shall insert the following clause to apply until the expiration of three years from the date of final payment under the subcontract or for the time periods specified in Appendix M of the Armed Services Procurement Regulation, whichever expires earlier.

AUDIT - PRICE ADJUSTMENTS

(a) This clause shall become operative only with respect to any change or other modification of this contract which involves a price adjustment in excess of \$100,000 unless the price adjustment is based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation; provided, that such change or other modification to this contract results from a change or other modification to the Government prime contract.

(b) For purposes of verifying that certified cost or pricing data submitted in conjunction with such a contract change or modification were accurate, complete and current, the Contracting Officer of the Government prime contract or his authorized representative shall -- until the expiration of three years from the date of final payment under this contract or for the time periods specified in Appendix M of the Armed Services Procurement Regulation, whichever expires earlier -- have the right to examine those books, records, documents, papers and other supporting data which involve transactions related to this contract or which will permit adequate evaluation of the cost or pricing data submitted, along with the computations and projections used therein.

(c) The Subcontractor agrees to insert this clause, including this paragraph (c) in all subcontracts hereunder which when entered into exceed \$100,000, so as to apply until the expiration of three years from the date of final payment of the subcontract or for the time periods specified in Appendix M of the Armed Services Procurement Regulation, whichever expires earlier.

35. PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA

(a) If any price, including profit or fee, negotiated in connection with this contract or any cost reimbursable under this contract was increased by any significant sums because the Contractor, or any subcontractor pursuant to the clause of this contract entitled "Subcontractor Cost or Pricing Data" or "Subcontractor Cost or Pricing Data -- Price Adjustments" or any subcontract clause therein required, furnished incomplete or inaccurate cost or pricing data or data not current as certified in the Contractor's Certificate of Current Cost or Pricing Data, then such price or cost shall be reduced accordingly and the contract shall be modified in writing as may be necessary to reflect such reduction.

(b) Failure to agree on a reduction shall be a dispute concerning a question of fact within the meaning of the "Disputes" clause of this contract.

(Note: Since the contract is subject to reduction under this clause by reason of defective cost or pricing data submitted in connection with certain subcontracts, it is expected that the Contractor may wish to include a clause in each such subcontract requiring the subcontractor to appropriately indemnify the Contractor. However, the inclusion of such a clause and the terms thereof are matters for negotiation and agreement between the Contractor and the subcontractor, provided that they are consistent with ASPR 23-203 relating to Disputes provisions in subcontracts. It is also expected that any subcontractor subject to such indemnification will generally require substantially similar indemnification for defective cost or pricing data required to be submitted by his lower-tier subcontractors.)

36. SUBCONTRACTOR COST AND PRICING DATA

(a) The Contractor shall require subcontractors hereunder to submit cost or pricing data under the following circumstances: (i) prior to award of any cost-reimbursement type, incentive, or price redeterminable subcontract; (ii) prior to the award of any subcontract the price of which is expected to exceed \$100,000; (iii) prior to the pricing of any subcontract change or other modification for which the price adjustment is expected to exceed \$100,000; except in the case of (ii) or (iii) where the price is based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation.

(b) The Contractor shall require subcontractors to certify, in substantially the same form as that used in the certificate by the Prime Contractor to the Government, that to the best of their knowledge and belief, the cost and pricing data submitted under (a) above is accurate, complete, and current as of the date of execution, which date shall be as close as possible to the date of agreement on the negotiated price of the subcontract.

(c) The Contractor shall insert the substance of this clause including this paragraph (c) in each of his cost-reimbursement type, price redeterminable, or incentive subcontracts hereunder, and in any other subcontract hereunder which exceeds \$100,000 except where the price thereof is based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation. In each such accepted subcontract hereunder in excess of \$100,000, the Contractor shall insert the substance of the following clause:

SUBCONTRACTOR COST AND PRICING DATA — PRICE ADJUSTMENTS

(a) Paragraphs (b) and (c) of this clause shall become operative only with respect to any change or other modification made pursuant to one or more provisions of this contract which involves a price adjustment in excess of \$100,000. The requirements of this clause shall be limited to such price adjustments.

(b) The Contractor shall require subcontractors hereunder to submit cost or pricing data under the following circumstances: (i) prior to award of any cost-reimbursement type, incentive or price redeterminable subcontract; (ii) prior to award of any subcontract, the price of which is expected to exceed \$100,000; (iii) prior to the pricing of any subcontract change or other modification for which the price adjustment is expected to exceed \$100,000; except, in the case of (ii) or (iii), where the price is based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation.

(c) The Contractor shall require subcontractors to certify, in substantially the same form as that used in the certificate by the Prime Contractor to the Government, that to the best of their knowledge and belief the cost and pricing data submitted under (b) above is accurate, complete, and current as of the date of execution, which date shall be as close as possible to the date of agreement on the negotiated price of the contract modification.

(d) The Contractor shall insert the substance of this clause including this paragraph (d) in each subcontract hereunder which exceeds \$100,000.

37. RIGHTS IN TECHNICAL DATA

(a) Definitions.

(1) Technical Data, as used in this clause, means technical writing, sound recordings, pictorial reproductions, drawings, or other graphic representations and works of a technical nature, whether or not copyrighted, which are specified to be delivered pursuant to this contract. The term does not include financial reports, cost analyses, and other information incidental to contract administration.

(2) Limited Rights means rights to use, duplicate, or disclose technical data, in whole or in part, by or for the Government, with the express limitation that such technical data shall not, without the written permission of the party furnishing such technical data, be (a) released or disclosed in whole or in part outside the Government, (b) used in whole or in part by the Government for manufacture, or (c) used by a party other than the Government, except for:

(i) emergency repair or overhaul work only, by or for the Government, where the item or process concerned is not otherwise reasonably available to enable timely performance of the work; provided, that the release or disclosure thereof outside the Government shall be made subject to a prohibition against further use, release or disclosure; or

(ii) release to a foreign government, as the interest of the United States may require, only for information or evaluation within such government or for emergency repair or overhaul work by or for such government under the conditions of (i) above.

(3) Unlimited Rights means rights to use, duplicate or disclose technical data, in whole or in part, in any manner and for any purpose whatsoever, and to have or permit others to do so.

(b) Government Rights.

(1) The Government shall have unlimited rights in:

(i) technical data resulting directly from performance of experimental, developmental or research work which was specified as an element of performance in this or any other Government contract or subcontract;

(ii) technical data necessary to enable manufacture of end-items, components and modifications, or to enable the performance of processes, when the end-items, components, modifications or processes have been, or are being, developed under this or any other Government contract or subcontract in which experimental, developmental or research work is, or was specified as an element of contract performance, except technical data pertaining to items, components or processes developed at private expense (but see (2)(ii) below);

(iii) technical data constituting corrections or changes to Government-furnished data;

(iv) technical data pertaining to end-items, components or processes which was prepared for the purpose of identifying sources, size, configuration, mating and attachment characteristics, functional characteristics and performance requirements ("form, fit and function" data, e.g., specification control drawings, catalog sheets, envelope drawings, etc.);

(v) manuals or instructional materials prepared for installation, operation, maintenance or training purposes;

(vi) other technical data which has been, or is normally furnished without restriction by the Contractor or subcontractor; and

(vii) technical data listed or described in an agreement incorporated into the Schedule of this contract, which the parties have predetermined, on the basis of subparagraphs (i) through (vi) above, and agreed will be furnished with unlimited rights.

(2) The Government shall have limited rights in:

(i) technical data, listed or described in an agreement incorporated into the Schedule of this contract, which the parties have agreed will be furnished with limited rights; and

(ii) technical data pertaining to items, components or processes developed at private expense, other than such data as may be included in the data referred to in (b)(1)(i), (iii), (iv), (v), and (vi);

provided, that each piece of data to which limited rights are to be asserted pursuant to (2)(i) and (ii) above is marked with the following legend in which is inserted the number of the prime contract under which the technical data is to be delivered and the name of the Contractor or subcontractor by whom the technical data was generated:

"This technical data, furnished under United States Government Contract No. _____, shall not, without the written permission of _____, be either (a) used, released or disclosed in whole or in part outside the Government, (b) used in whole or in part by the Government for manufacture or (c) used by a party other than the Government, except for: (i) emergency repair or overhaul work only, by or for the Government, where the item or process concerned is not otherwise reasonably available to enable timely performance of the work; provided, that the release or disclosure hereof outside the Government shall be made subject to a prohibition against further use, release, or disclosure; or (ii) release to a foreign government, as the interest of the United States may require, only for information or evaluation within such government or for emergency repair or overhaul work by or for such government under the conditions of (i) above. This legend shall be marked on any reproduction hereof in whole or in part."

No legend shall be marked on, nor shall any limitation on rights of use be asserted as to, any data which the Contractor has previously delivered to the Government without restriction. The limited rights provided for by this paragraph (b)(2) shall not impair the right of the Government to use similar or identical data acquired from other sources.

(c) Material Covered by Copyright.

(1) Notwithstanding the provisions of (b) above, the Contractor agrees to and does hereby grant to the Government, and to its officers, agents, and employees acting within the scope of their official duties, a royalty-free, nonexclusive and irrevocable license throughout the world for Government purposes to publish, translate, reproduce, deliver, perform, dispose of, and to authorize others so to do, all technical data now or hereafter covered by copyright.

(2) No such copyrighted matter shall be included in technical data furnished hereunder without the written permission of the copyright owner for the Government to use such copyrighted matter in the manner described above.

(3) The Contractor shall report to the Government (or higher-tier Contractor) promptly and in reasonable written detail each notice or claim of copyright infringement received by the Contractor with respect to any technical data delivered hereunder.

(d) Removal of Unauthorized Markings. Notwithstanding any provisions of this contract concerning inspection and acceptance, the Government may modify, remove, obliterate, or ignore any marking not authorized by the terms of this contract on any technical data furnished hereunder if --

(i) the Contractor fails to respond within sixty (60) days to a written inquiry by the Government concerning the propriety of the use of the marking, or

(ii) the Contractor's response fails to substantiate his contention that the use of the marking is authorized, in which case the Government shall give written notice to the Contractor.

(e) Relation to Patents. Nothing contained in this clause shall imply a license to the Government under any patent or be construed as affecting the scope of any license or other right otherwise granted to the Government under any patent.

(f) Limitation on Charges for Data. The Contractor recognizes that the Government, or a foreign government with funds derived through the Military Assistance Program or otherwise through the United States Government, may contract for property or services with respect to which the vendor may be liable to the Contractor for charges for the use of technical data on account of such a contract. The Contractor further recognizes that it is the policy of the Government not to pay in connection with its contracts, or to allow to be paid in connection with contracts made with funds

derived through the Military Assistance Program or otherwise through the United States Government, charges for data which the Government has a right to use and disclose to others, which is in the public domain, or which the Government has been given without restrictions upon its use and disclosure to others. This policy does not apply to reasonable reproduction, handling, mailing, and similar administrative costs incident to the furnishing of such data. In recognition of this policy, the Contractor agrees to participate in and make appropriate arrangements for the exclusion of such charges from such contracts, or for the refund of amounts received by the Contractor with respect to any such charges not so excluded.

(g) Acquisition of Data from Subcontractors.

(1) Whenever any technical data is to be obtained from a subcontractor under this contract, the Contractor shall use this same clause in the subcontract, without alteration, and no other clause shall be used to enlarge or diminish the Government's or the Contractor's rights in that subcontractor data which is required for the Government.

(2) Technical data required to be delivered by a subcontractor shall normally be delivered to the next higher-tier Contractor. However, when there is a requirement in the prime contract, or in the deferred order, for data which may be supplied with limited rights pursuant to (b)(2) above, a subcontractor may fulfill such requirement by submitting such data directly to the Government rather than through the prime Contractor.

(3) The Contractor and higher-tier subcontractors will not use their power to award subcontracts as economic leverage to acquire rights in data from their subcontractors for themselves.

(h) (1) Unless the Schedule provides otherwise, and subject to (2) below, the Contractor will promptly notify the Contracting Officer in writing of the intended use by the Contractor or a subcontractor in performance of this contract of any item, component or process for which data called for by this contract, suitable for competitive procurement, would fall within paragraph (b)(2) above (i.e., if and when furnished, might be furnished with limited rights).

(2) Such notification is not required with respect to:

(i) standard commercial items which are manufactured by more than one source of supply; or

(ii) items, components or processes for which such notice was given pursuant to pre-determination of rights in data in connection with this contract.

(3) Contracting Officer approval is not necessary under this clause for the Contractor to use the item, component or process in the performance of the contract.

38. WARRANTY OF TECHNICAL DATA

(a) Technical data, as used in this clause, refers to recorded information required to be delivered under this contract used to define a design and to produce, support, maintain, or operate items of defense materiel. These data may be recorded as graphic or pictorial delineations in media such as drawings or photographs; text in specifications or related performance or design-type documents; in machine forms such as punched cards, magnetic tape, computer memory printouts; or may be retained in computer memory. Examples of recorded information include engineering drawings and associated lists, specifications, standards, process sheets, manuals, technical reports, catalog item identifications, and related information. For purposes of this clause, research and engineering data are included but financial and administrative data are excluded.

(b) Notwithstanding inspection and acceptance by the Government of technical data furnished under this contract and notwithstanding any provision of this contract concerning the conclusiveness thereof, the Contractor warrants that all technical data delivered under this contract will at the time of delivery conform with the specifications and all other requirements of this contract. The warranty period shall extend for three years after completion of the delivery of the line item of data (as identified in DD Form 1423) of which the data forms a part; or any longer period specified in the contract.

(c) The Contractor agrees to notify the Contracting Officer in writing immediately of any breach of the above warranty which the Contractor discovers within the warranty period.

(d) The following remedies shall apply to all breaches of the above warranty provided that the Government notifies the Contractor of the breach in writing within the warranty period.

(1) Within a reasonable time after the Contracting Officer notifies the Contractor of a breach of warranty, he may:

(i) by written notice, direct the Contractor to correct or replace the nonconforming technical data promptly; or

(ii) if he determines that the Government no longer has a requirement for correction or replacement of the data, or that the data can be more reasonably corrected by the Government, inform the Contractor by written notice that the Government elects a price or fee adjustment in lieu of correction or replacement.

(2) If the Contractor refuses or fails to comply with a direction under (1)(i) above, the Contracting Officer may, within a reasonable time of such refusal or failure:

(i) by contract or otherwise, correct or replace the nonconforming technical data and charge the Contractor the cost occasioned to the Government thereby; or

(ii) elect a price or fee adjustment in lieu of correction or replacement.

(3) In addition to the remedies specified under (1) and (2) above, Contractor shall be liable to the Government for all damages sustained by the Government as a result of breach of the warranty specified in this clause; however, the additional liability under this subparagraph (3) shall not exceed 10% of the total contract price. If the breach of the warranty specified in (b) of this clause is with respect to data supplied by an equipment subcontractor, the limit of the prime Contractor's liability shall be 10% of the total subcontract price in the case of a firm fixed-price subcontract, 75% of the total subcontract fee in the case of a cost-plus-fixed-fee or cost-plus-award-fee subcontract, or 75% of the total subcontract target profit or fee in the case of a fixed-price or cost-plus-incentive-type contract. The additional liability specified in this paragraph (3) shall not apply:

(i) with respect to the requirement under Category E or I of MIL-D-1000; provided, that the data furnished by the Contractor was current, accurate at time of submission, and did not involve a significant omission of data necessary to comply with such requirements; or

(ii) with respect to specific defects as to which the Contractor discovers and gives written notice to the Government before the error is discovered by the Government.

(e) The remedies set forth in this clause represent the exclusive means by which the rights conferred on the Government by this clause may be enforced.

(f) The provisions of this clause apply anew to that portion of any technical data which is corrected or furnished in replacement under (d)(1)(i) above.

39. GOVERNMENT DELAY OF WORK

(a) If the performance of all or any part of the work is delayed or interrupted by an act of the Contracting Officer in the administration of this contract, which act is not expressly or impliedly authorized by this contract, or by his failure to act within the time specified in this contract (or within a reasonable time if no time is specified), an adjustment (excluding profit) shall be made for any increase in the cost of performance of this contract caused by such delay or interruption and the contract modified in writing accordingly. Adjustment shall be made also in the delivery or performance dates and any other contractual provision affected by such delay or interruption. However, no adjustment shall be made under this clause for any delay or interruption (i) to the extent that performance would have been delayed or interrupted by any other cause, including the fault or negligence of the Contractor; or (ii) for which an adjustment is provided or excluded under any other provision of this contract.

(b) No claim under this clause shall be allowed (i) for any costs incurred more than twenty (20) days before the Contractor shall have notified the Contracting Officer in writing of the act or failure to act involved; and (ii) unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of such delay or interruption, but not later than the date of final payment under the contract.

40. FREQUENCY AUTHORIZATION

(a) Authorization of radio frequencies required in support of this contract shall be obtained through the Contracting Officer by the Contractor or subcontractor in need thereof. Frequency management procedures prescribed in the Schedule of this contract shall be followed in obtaining radio frequency authorization.

(b) For any experimental, developmental or operational equipment for which the appropriate frequency allocation has not been made, the Contractor or subcontractor shall provide the technical operating characteristics of the proposed electromagnetic radiating device to the Contracting Officer during the initial planning, experimental, or developmental phases of contractual performance. DD Form 1494, "Application for Frequency Allocation," shall be used for this purpose and shall be prepared in accordance with instructions contained on the form.

(c) This clause, including this paragraph (c), shall be included in all subcontracts which call for developing, producing, testing, or operating a device for which a radio frequency authorization is required.

41. CARE OF LABORATORY ANIMALS

(a) In the care of any experimental live animals (dogs, cats, non-human primates, guinea pigs, hamsters, or rabbits) used in the performance of this contract, the Contractor shall adhere to the principles enunciated in the "Guide for Laboratory Animal Facilities and Care" prepared by the Institute of Laboratory Animal Resources, National Academy of Sciences -- National Research Council, and in the publication "Laboratory Animal Welfare" prepared by the Agricultural Research Service, Department of Agriculture. In case of conflict between the standards in these publications, the higher standard shall be used.

(b) The Contractor shall obtain necessary copies of the publications referenced in (a) above from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.

(c) The Contractor shall acquire dogs and cats used in research and development programs from a person holding a valid dealer's license issued by the Secretary of Agriculture, except as exempted by Public Law 89-544, "Laboratory Animal Welfare Act," 24 August 1966.

42. TITLE AND RISK OF LOSS

(a) Unless this contract specifically provides for earlier passage of title, title to supplies covered by this contract shall pass to the Government upon formal acceptance, regardless of when or where the Government takes physical possession.

(b) (1) Unless this contract specifically provides otherwise, risk of loss of or damage to supplies covered by this contract shall remain with the Contractor until, and shall pass to the Government upon:

(i) delivery of the supplies to a carrier, if transportation is f.o.b. origin;

(ii) acceptance by the Government or delivery of possession of the supplies to the Government at the destination specified in this contract, whichever is later, if transportation is f.o.b. destination.

(2) Notwithstanding (1) above, the risk of loss of or damage to supplies which so fail to conform to the contract as to give a right of rejection shall remain with the Contractor until cure or acceptance, at which time (1) above shall apply.

(c) Notwithstanding (b) above, the Contractor shall not be liable for loss of or damage to supplies caused by the negligence of officers, agents, or employees of the Government acting within the scope of their employment.

43. PATENT RIGHTS

The following provisions shall apply to the work to be performed under this contract:

STANDARD FORM 26, JULY 1966 GENERAL SERVICES ADMINISTRATION FED. PROC. REG. (41CFR) 1-16.101		AWARD/CONTRACT				PAGE 1 OF 1	
1. CONTRACT (Proc. Inst. Ident.) NO. N00014-69-C-0181		2. EFFECTIVE DATE 69 Feb 15		3. REQUISITION/PURCHASE REQUEST/PROJECT NO. NR 144-246/8-23-68 (454)		4. CERTIFIED FOR NATIONAL DEFENSE UNDER BSDA REG. 2 AND/OR DMS REG. 1. RATING: DO-C9	
5. ISSUED BY Procuring Contracting Officer Office of Naval Research Navy Department Washington, D. C. 20360		CODE 00014		6. ADMINISTERED BY (If other than block 5) Commander, Defense Contract Administration Services Region P.O. Box 7478 Philadelphia, Pennsylvania 19101		7. DELIVERY N.A. FOB DESTINATION <input type="checkbox"/> OTHER (See below)	
8. CONTRACTOR NAME AND ADDRESS Randomline, Inc. Glenside Avenue & Limekiln Pike Glenside, Pennsylvania 19038		CODE FACILITY CODE 39		9. DISCOUNT FOR PROMPT PAYMENT N.A.		10. SUBMIT INVOICES (4 copies unless otherwise specified) TO ADDRESS SHOWN IN BLOCK 8 UNLESS BOX BELOW IS CHECKED <input type="checkbox"/> SEND INVOICES TO THE COGNIZANT DEFENSE CONTRACT AUDIT AGENCY	
11. SHIP TO/MARK FOR N.A.		CODE		12. PAYMENT WILL BE MADE BY Disbursing Officer Defense Contract Administration Services Region P. O. Box 7478 Philadelphia, Pennsylvania 19101		CODE 5704	
13. THIS PROCUREMENT WAS <input type="checkbox"/> ADVERTISED <input checked="" type="checkbox"/> NEGOTIATED, PURSUANT TO: <input checked="" type="checkbox"/> 10 U.S.C. 2384 (a)(1) <input type="checkbox"/> 41 U.S.C. 252 (c)()							
14. APPROPRIATION SYMBOL AND SUBHEAD 17X1319.1491	OBJ. CLASS. 25	BUREAU CONTROL NO. 24501	SUB. ALLOT. -	AUTHOR'N ACCTG. ACT. 14	TRANS. TYPE 2B	PROPERTY ACCTG. ACT. -	COUNTRY -
						COST CODE 1K54	AMOUNT \$20,680.00
15. ITEM NO.	16. SUPPLIES/SERVICES				17. QUANTITY	18. UNIT	19. UNIT PRICE
(SEE SECTION B OF SCHEDULE)							
						20. AMOUNT	
21. CONTRACTING OFFICER WILL COMPLETE BLOCK 22 OR 26 AS APPLICABLE						TOTAL AMOUNT OF CONTRACT \$ 20,680.00	
22. <input checked="" type="checkbox"/> CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign this document and return 3 copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)				25. <input type="checkbox"/> AWARD (Contractor is not required to sign this document.) Your offer on Solicitation Number _____ including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the items listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your offer, and (b) this award/contract. No further contractual document is necessary.			
23. NAME OF CONTRACTOR Randomline, Inc. BY <u>A. R. Zandle</u> (Signature of person authorized to sign)				27. UNITED STATES OF AMERICA BY <u>C. W. Hartley</u> C. W. HARTLEY (Signature of Contracting Officer)			
24. NAME AND TITLE OF SIGNER (Type or print) A. R. Zandle, Secretary-Treasurer				28. DATE SIGNED 3 March, 1969			
				29. DATE SIGNED 1969 MAR 6			

SCHEDULESECTION A - BASIC CONTRACT IDENTIFICATION

This Schedule is established under, and constitutes a part of, Contract N00014-69-C-0181, consisting of: face page; Schedule; and General Provisions pages 1 through 32, identified as "C(P) - March 1967," with "Alterations" thereto. In the event of any inconsistency in this contract, the inconsistency shall be resolved by giving precedence in the following order: (a) the Schedule; (b) the General Provisions; (c) the other provisions of the contract whether incorporated by reference or otherwise; and (d) the Specifications.

SECTION B - SPECIFICATION OF WORKLine Item

<u>No.</u>	<u>Supplies/Services</u>	<u>Amount</u>
1	The Contractor shall furnish the necessary personnel and facilities for and, in accordance with any instructions issued by the Scientific Officer or his authorized representative, shall study the effects of exposure to radio frequency energy and ionized air on performance.	(FIXED PRICE)

EAM TITLE: BEHAVIORAL BIOPHYSICS

IAA - See Section E - 15 April 1969	\$ 3,400.00
IAB - See Section E - 15 June 1969	3,400.00
IAC - See Section E - 15 August 1969	3,400.00
IAD - See Section E - 15 October 1969	3,400.00
IAE - See Section E - 15 December 1969	3,400.00
IAF - See Section E - Upon completion of work	<u>3,680.00</u>

Total Amount of Contract	\$20,680.00
--------------------------	-------------

2	Reports - See Section F	(Not Separately Priced)
---	-------------------------	-------------------------

SECTION C - PERIOD OF PERFORMANCE

The performance of work hereunder shall commence on 15 February 1969, and shall be completed on 14 February 1970.

SECTION D - SCIENTIFIC OFFICER

The Scientific Officer under this contract is the Head, Physiological Psychology Branch, Psychological Sciences Division, Office of Naval Research, Department of the Navy, Washington, D. C. 20360.

SCHEDULE

SECTION E - PRICE AND PAYMENTS

(1) Except to the extent otherwise provided herein, the Government shall pay to the Contractor as full compensation for the performance of work hereunder, the total price specified in Item 21 on Page 1, hereof. Upon receipt of properly certified invoices, and a certification by the Contract Administrator that status (progress) reports have been submitted in accordance with Section F, hereof, payments shall be made, notwithstanding any provisions of clause 2 of the contract to the contrary, as specified herein; provided, however, that the final payment shall not be made until the Scientific Officer has received the final report from the Contractor and has certified receipt and acceptance thereof to the Contract Administrator.

(2) The total contract price specified in this contract is based upon the understanding that the Contractor shall conduct the specified research program substantially in accordance with the proposal upon which this contract is based. In the event that the performance of work under this contract is not substantially in accordance with the underlying proposal, it is understood and agreed that the parties hereto shall negotiate an appropriate reduction in the contract price or an extension in the period of performance of this contract.

SECTION F - REPORTS

(1) The Contractor shall submit not more than fifty (50) copies of status (progress) reports on the dates specified herein, and not more than one hundred (100) copies of a final technical report making full disclosures of all research conducted under this contract. The final technical report shall be distributed in accordance with a list approved and furnished to the Contractor by the Scientific Officer. With the approval of the Scientific Officer, reprints of published articles may be distributed as technical reports. In all technical reports (including reprints) submitted hereunder, there shall be affixed a face page which shall contain a statement that "reproduction in whole or in part is permitted for any purpose of the United States Government," and a statement that the research was sponsored by the Office of Naval Research, including the ONR Contract Number and the ONR Contract Authority identification number (NR-, Reqn., etc.). Where reports based upon research performed under this contract are published in scientific and technical journals or where news releases are issued with regard to the work performed under this contract, there shall be included in such publications and news releases an appropriate statement acknowledging that the research being reported was accomplished with the support of the Office of Naval Research.

(2) The Contractor shall include a completed "Document Control Data - R&D" form (DD Form 1473) as the last page of each copy of every scientific and technical report prepared under this contract. The form contains instructions for preparation. The cognizant Government Contract Administrator will provide assistance to the Contractor in obtaining the required forms. Administrative type reports, managerial (status) reports, and reprints submitted as technical reports are excluded from this requirement.

SCHEDULE

(3) Unless otherwise authorized in writing by the Contracting Officer, reports submitted hereunder shall be reproduced only by duplicating processes and shall not exceed 5,000 single page reports or a total of 25,000 pages of a multiple-page report. To satisfy the requirements of the Defense Documentation Center, at least one copy of each technical report submitted to the Defense Documentation Center must be black typing or reproduction of black on white paper or suitable for reproduction by photographic techniques. Reprints of published technical articles are not within the scope of this paragraph (3).

PATENT RIGHTS (DEFERRED) (OCTOBER 1966) (1)

(a) Definitions Used in This Clause.

(1) Subject Invention means any invention or discovery, whether or not patentable, conceived or first actually reduced to practice in the course of or under this contract. The term "Subject Invention" includes, but is not limited to, any art, method, process, machine, manufacture, design or composition of matter, or any new and useful improvement thereof, or any variety of plant, which is or may be patentable under the patent laws of the United States of America or any foreign country.

(2) Governmental purpose means the right of the Government of the United States (including any agency thereof, state or domestic municipal government) to practice and have practiced (make or have made, use or have used, sell or have sold) any Subject Invention throughout the world by or on behalf of the Government of the United States.

(3) Contract means any contract, agreement, grant, or other arrangement, or subcontract entered into with or for the benefit of the Government where a purpose of the contract is the conduct of experimental, developmental, or research work.

(4) Subcontract and subcontractor mean any subcontract or subcontractor of the Contractor, any lower-tier subcontract or subcontractor under this contract.

(5) To bring to the point of practical application means to manufacture in the case of a composition or product, to practice in the case of a process, or to operate in the case of a machine or system and, in each case, under such conditions as to establish that the invention is being worked and that its benefits are reasonably accessible to the public.

(b) Rights Granted to the Government. Except as provided in (e) and (h) of this clause, the Contractor agrees to grant the Government all right, title and interest in and to each Subject Invention (made by the Contractor), subject to the reservation of a nonexclusive and royalty-free license to the Contractor. The license shall extend to existing and future associated and affiliated companies, if any, within the corporate structure of which the Contractor is a part and shall be assignable to the successor of that part of the Contractor's business to which such Invention pertains. Nothing contained in this Patent Rights clause shall be deemed to grant any rights with respect to any invention other than a Subject Invention.

(c) Invention Disclosures and Reports.

(1) With respect to Subject Inventions (made by the Contractor), except those which are obviously unpatentable under the patent laws of the United

PATENT RIGHTS (DEFERRED) (OCTOBER 1966) (2)

States, the Contractor shall furnish to the Contracting Officer:

(i) a written disclosure of each invention within six (6) months after conception or first actual reduction to practice, whichever occurs first under this contract, sufficiently complete in technical detail to convey to one skilled in the art to which the Invention pertains a clear understanding of the nature, purpose, operation, and to the extent known the physical, chemical, or electrical characteristics of the Invention; when unable to submit a complete disclosure, the Contractor shall within said six (6) month period submit a disclosure which includes all such technical detail then known to him and shall, unless the Contracting Officer authorizes a different period, submit all other technical detail necessary to complete the disclosure within three (3) months of the expiration of said six (6) month period;

(ii) interim reports at least every twelve (12) months, the initial period of which shall commence with the date of this contract, each report listing all such Inventions conceived or first actually reduced to practice more than three (3) months prior to the date of the report and not listed on a prior interim report, or certifying that there are no such unreported Inventions;

(iii) prior to final settlement of this contract, a final report listing all such Inventions including all those previously listed in interim reports, or certifying that there are no such unreported Inventions;

(iv) information in writing, as soon as practicable, of the date and identity of any public use, sale, or publication of such Invention made by or known to the Contractor or of any contemplated publication by the Contractor;

(v) upon request, such duly executed instruments and other papers (prepared by the Government) as are deemed necessary to vest in the Government the rights granted it under this clause and to enable the Government to apply for and prosecute any patent application, in any country, covering such Invention where the Government has the right under this clause to file such application; and

(vi) upon request, an irrevocable power of attorney to inspect and make copies of each United States patent application filed by, or on behalf of, the Contractor covering any such Invention.

(2) With respect to each Subject Invention in which the Contractor has been granted greater rights under paragraph (h) of this clause, the Contractor agrees to provide written reports at reasonable intervals, when requested by the Government as to:

(1) the commercial use that is being made or is intended to be made of such Invention;

PATENT RIGHTS (DEFERRED) (OCTOBER 1966) (3)

(ii) the steps taken by the Contractor to bring the Invention to the point of practical application, or to make the Invention available for licensing.

(d) Subcontracts.

(1) The Contractor shall, unless otherwise authorized or directed by the Contracting Officer, include a patent rights clause containing all the provisions of this Patent Rights clause except provision (g) in any subcontract hereunder where a purpose of the subcontract is the conduct of experimental, developmental, or research work. In the event of refusal by a subcontractor to accept this Patent Rights clause, or if in the opinion of the Contractor this Patent Rights clause is inconsistent with the policy set forth in ASPR 9-107.2 and 9-107.3, the Contractor:

(i) shall promptly submit a written report to the Contracting Officer setting forth the subcontractor's reasons for such refusal or the reasons Contractor is of the opinion that the inclusion of this clause would be so inconsistent, and other pertinent information which may expedite disposition of the matter; and

(ii) shall not proceed with the subcontract without the written authorization of the Contracting Officer.

The Contractor shall not, in any subcontract or by using such a subcontract as consideration therefor, acquire any rights to Subject Inventions for his own use (as distinguished from such rights as may be required solely to fulfill his contract obligations to the Government in the performance of this contract). Reports, instruments, and other information required to be furnished by a subcontractor to the Contracting Officer under the provisions of such a patent rights clause in a subcontract hereunder may, upon mutual consent of the Contractor and the subcontractor (or by direction of the Contracting Officer) be furnished to the Contractor for transmission to the Contracting Officer.

(2) The Contractor, at the earliest practicable date, shall also notify the Contracting Officer in writing of any subcontract containing a patent rights clause, furnish to the Contracting Officer a copy of such subcontract, and notify him when such subcontract is completed. It is understood that the Government is a third party beneficiary of any subcontract clause granting rights to the Government in Subject Inventions, and the Contractor hereby assigns to the Government all the rights that the Contractor would have to enforce the subcontractor's obligations for the benefit of the Government with respect to Subject Inventions. If there are no subcontracts containing patent rights clauses, a negative report is required. The Contractor shall not be obligated to enforce the agreements of any subcontractor hereunder relating to the obligations of the subcontractor to the Government in regard to Subject Inventions.

PATENT RIGHTS (DEFERRED) (OCTOBER 1966) (4)

(e) Domestic Filing of Patent Applications by Contractor.

(1) If greater rights are granted in and to a Subject Invention pursuant to paragraph (h) of this clause, the Contractor shall file in due form and within six (6) months of the granting of such greater rights a United States Patent application claiming the Invention referred to in said paragraph, and shall furnish, as soon as practicable, the serial number and filing date of each such application and the patent number of any resulting patent. As to each Invention in which the Contractor has been given greater rights, the Contractor shall notify the Contracting Officer at the end of the six (6) month period if he has failed to file or caused to be filed a patent application covering such invention. If the Contractor has filed or caused to be filed such an application within the six (6) month period, but elects not to continue prosecution of such application, he shall notify the Contracting Officer not less than sixty (60) days before the expiration of the response period. In either of the situations covered by the two immediately-preceding sentences, the Government shall be entitled to all rights, title and interest in such Invention subject to the reservation to the Contractor of a license as specified in paragraph (b).

(2) The following statement shall be included within the first paragraph of any patent application filed and any patent issued on an Invention which was made under Government contract or subcontract thereunder: "The Invention herein described was made in the course of or under a contract or subcontract thereunder (or grant) with (here state the Department or Agency)."

(f) Foreign Filing of Patent Applications.

(1) If the Contractor acquires greater rights in a Subject Invention pursuant to paragraph (h) of this clause and has filed a United States patent application claiming the Invention, the Contractor, or those other than the Government deriving rights from the Contractor, shall as between the parties hereto, have the exclusive right, subject to the rights of the Government under paragraph (i) of this clause, to file applications on the Inventions in each foreign country within:

(i) nine (9) months from the date a corresponding United States patent application is filed;

(ii) six (6) months from the date permission is granted to file foreign applications where such filing has been prohibited for security reasons; or

(iii) such longer period as may be approved by the Contracting Officer.

The Contractor shall notify the Contracting Officer of each foreign application filed and, upon written request of the Contracting Officer, furnish an English

PATENT RIGHTS (DEFERRED) (OCTOBER 1966) (5)

translation of such application, and convey to the Government the entire right, title and interest in the Invention in each foreign country in which an application has not been filed within the time specified above, subject to the reservation of a royalty-free license as specified in paragraph (b).

(2) If the Contractor does not acquire greater rights pursuant to paragraph (h) of this clause and the Government determines not to file a patent application on any Subject Invention (made by the Contractor) in any particular foreign country, the Contracting Officer, upon request of the Contractor, may authorize the Contractor to file a patent application on such Invention in such foreign country and retain ownership thereof, subject to an irrevocable, nonexclusive and royalty-free license to practice and have practiced such Subject Invention throughout the world for Governmental purposes, including the practice of each such Subject Invention (i) in the manufacture, use, and disposition of any article or material, (ii) in the use of any method, or (iii) in the performance of any service, acquired by or for the Government or with funds derived through the Military Assistance Program of the Government or funds otherwise derived through the Government.

(g) Withholding of Payment.

(1) Final payment under this contract shall not be made before the Contractor delivers to the Contracting Officer the final report required by (c)(1)(iii), all written invention disclosures required by (c)(1)(i), and all information as to subcontracts required by (d)(ii).

(2) If at any time before final payment under this contract the Contractor fails to deliver an interim report required by (c)(1)(ii), or a written invention disclosure required by (c)(1)(i), the Contracting Officer shall withhold from payment \$50,000 or five percent (5%), of the amount of this contract whichever is less (or whatever lesser sum is available if payments have exceeded ninety five percent (95%) of the amount of this contract) until the Contractor corrects all such failures.

(3) After payments total eighty percent (80%) of the amount of this contract, and if no amount is required to be withheld under (2) above, the Contracting Officer may, if he deems such action warranted because of the Contractor's performance under the Patent Rights clause of this contract or other known Government contracts, withhold from payment such sum as he considers appropriate, not exceeding \$50,000 or five percent (5%), of the amount of this contract whichever is less, to be held as a reserve until the Contractor delivers all the reports, disclosures, and information specified in (1) above. Subject to the five percent (5%) or \$50,000 limitation, the sum withheld under this subparagraph (3) may be increased or decreased from time to time at the discretion of the Contracting Officer.

PATENT RIGHTS (DEFERRED) (OCTOBER 1966) (6)

(4) No amount shall be withheld under this paragraph (g) while the amount specified by this paragraph is being withheld under other provisions of this contract. The total amount withheld under (2) and (3) above shall not exceed \$50,000 or five percent (5%), of the amount of this contract whichever is less. The withholding of any amount or subsequent payment thereof to the Contractor shall not be construed as a waiver of any rights accruing to the Government under this contract. This paragraph shall not be construed as requiring the Contractor to withhold any amounts from a subcontractor to enforce compliance with the patent provision of a subcontract. As used in this paragraph (g), "this contract" means "this contract as from time to time amended." In cost-type contracts, "amount of this contract" means "estimated cost of this contract."

(h) Contractor's Request for Greater Rights. The Contractor at the time of disclosing a Subject Invention pursuant to paragraph (c) of this clause, but not later than three (3) months thereafter, may submit in writing to the Contracting Officer, in accordance with applicable regulations, a request for greater rights in such Invention than the license reserved to the Contractor in paragraph (b) of this clause. Each such request shall include, but need not be limited to, information concerning the Contractor's intention and plan to bring the Invention to the point of commercial application. The Contracting Officer shall review the Contractor's request for greater rights and shall notify the Contractor whether, and the extent to which, such request is granted. Any rights granted to the Contractor shall be subject to the provisions of (i) of this clause.

(i) Reservation of Rights to the Government.

(1) In the event greater rights in any Subject Invention are vested in or granted to the Contractor pursuant to paragraph (h) above, such greater rights shall, as a minimum, be subject to an irrevocable, nonexclusive and royalty-free license to practice and have practiced each such Subject Invention (made by the Contractor) throughout the world for Governmental purposes, and including the practice of each such Subject Invention (i) in the manufacture, use, and disposition of any article or material, (ii) in the use of any method, or (iii) in the performance of any service, acquired by or for the Government or with funds derived through the Military Assistance Program of the Government or funds otherwise derived through the Government.

(2) In the event greater rights are vested in the Contractor, the Contractor further agrees to and does hereby grant to the Government the right to require the granting of a license to an applicant under any such Invention:

(i) on a nonexclusive, royalty-free basis, unless the Contractor, his licensee, or his assignee demonstrates to the Government, at its request, that effective steps have been taken within three (3) years after a patent issues on such Invention to bring the Invention to the point of practical application or that the Invention has been made available for licensing royalty-free or on terms that are reasonable in the circumstances, or can show cause why the title should be retained for a further period of time; or

PATENT RIGHTS (DEFERRED) (OCTOBER 1966) (7)

(ii) royalty-free or on terms that are reasonable in the circumstances to the extent that the Invention is required for public use by Governmental regulations or as may be necessary to fulfill health needs, or for other public purposes stipulated in the Schedule of this contract.

(j) Right to Disclose Subject Inventions. The Government may duplicate and disclose reports and disclosures of Subject Inventions required to be furnished by the Contractor pursuant to this Patent Rights clause.

(k) Forfeiture of Rights in Unreported Subject Inventions. The Contractor shall forfeit to the Government all rights in any Subject Invention which he fails to report to the Contracting Officer at or prior to the time he (i) files or causes to be filed a United States or foreign application thereon, or (ii) submits the final report required by (c)(iii) of this clause, whichever is later, provided that the Contractor shall not forfeit rights in a Subject Invention if (A) contending that the invention is not a Subject Invention, he nevertheless reports the invention and all the facts pertinent to his contention to the Contracting Officer within the time specified in (i) or (ii) above, or (B) he establishes that the failure to report was due entirely to causes beyond his control and without his fault or negligence. The Contractor shall be deemed to hold any such forfeited Subject Invention, and the patent applications and patents, pertaining thereto, in trust for the Government pending written assignment of the Invention. The rights accruing to the Government under this paragraph shall be in addition to and shall not supersede any other rights which the Government may have in relation to unreported Subject Inventions. Nothing contained herein shall be construed to require the Contractor to report any invention which is not in fact a Subject Invention.

(l) Examination of Records Relating to Inventions. The Contracting Officer, or his authorized representative shall, until the expiration of three (3) years after final payment under this contract, have the right to examine any books, records, documents, and other supporting data of the Contractor which the Contracting Officer or his authorized representative shall reasonably deem directly pertinent to the discovery or identification of Subject Inventions or to compliance by the Contractor with the requirements of this clause.

ALTERATIONS IN CONTRACT
(For C(P) - March 1967)
October 1968

The following Alterations are hereby made in the General Provisions of this contract:

1. MODIFICATIONS

(a) In clause 6, entitled "Government Property," make the following changes:

(i) In paragraph (c), in the sixth line, delete the first word "of," and substitute in lieu thereof the word "or."

(ii) Delete paragraph (d) in its entirety and substitute in lieu thereof the following:

"(d) Property Administration. The Contractor shall comply with the provisions of Appendix B, Armed Services Procurement Regulation, as in effect on the date of the contract, which is hereby incorporated by reference and made a part of this contract. Material to be furnished by the Government shall be ordered or returned by the Contractor, when required, in accordance with the 'Manual for Military Standard Requisitioning and Issue Procedure (MILSTRIP) for Defense Contractors' (Appendix H, Armed Services Procurement Regulation) as in effect on the date of this contract, which Manual is hereby incorporated by reference and made a part of this contract."

(iii) Delete paragraph (g) in its entirety and substitute in lieu thereof the following:

"(g) Risk of Loss.

(1) Except for loss, destruction or damage resulting from a failure of the Contractor due to willful misconduct or lack of good faith of any of the Contractor's managerial personnel as defined herein, to maintain and administer the program for the maintenance, repair, protection and preservation of the Government property as required by paragraph (f) hereof, and except as specifically provided in the clause or clauses of this contract designated in the Schedule, the Contractor shall not be liable for loss or destruction of or damage to the Government property provided under this contract:

(i) caused by any peril while the property is in transit off the Contractor's premises; or

(ii) caused by any of the following perils while the property is on the Contractor's or subcontractor's premises, or on any other premises where such property may properly be located, or by removal therefrom because of any of the following perils --

(A) fire; lightning, windstorm, cyclone, tornado, hail; explosion; riot, riot attending a strike, civil commotion; vandalism and malicious

ALTERATIONS IN CONTRACT
(For C(P) - March 1967)
October 1968

mischievous; sabotage; aircraft or objects falling therefrom; vehicles running on land or tracks; excluding vehicles owned or operated by the Contractor or any agent or employee of the Contractor; smoke; sprinkler leakage; earthquake or volcanic eruption; flood, meaning thereby rising of a body of water; nuclear reaction, nuclear radiation or radioactive contamination; hostile or warlike action, including action in hindering, combating, or defending against an actual, impending or expected attack by any government or sovereign power (de jure or de facto), or by any authority using military, naval, or air forces; or by an agent of any such government, power, authority, or forces; or

(B) other peril, of a type not listed above, if such other peril is customarily covered by insurance (or by a reserve for self-insurance) in accordance with the normal practice of the Contractor, or the prevailing practice in the industry in which the Contractor is engaged with respect to similar property in the same general locale.

The perils as set forth in (i) and (ii) above are hereinafter called 'excepted perils.'

If the Contractor transfers Government property to the possession and control of a subcontractor, the transfer shall not affect the liability of the Contractor for loss or destruction of or damage to the property as set forth above. However, the Contractor shall require the subcontractor to assume the risk of, and be responsible for, any loss or destruction of or damage to the property while in the latter's possession or control, except to the extent that the subcontract, with the prior approval of the Contracting Officer, provides for the relief of the Contractor from such liability. In the absence of such approval, the subcontract shall contain appropriate provisions requiring the return of all Government property in as good condition as when received, except for reasonable wear and tear or for the utilization of the property in accordance with the provisions of the prime contract.

The term 'Contractor's managerial personnel' as used herein means the Contractor's directors, officers and any of his managers, superintendents, or other equivalent representatives who have supervision or direction of:

- (i) all or substantially all of the Contractor's business;
- (ii) all or substantially all of the Contractor's operation at any one plant or separate location at which the contract is being performed; or
- (iii) a separate and complete major industrial operation in connection with the performance of this contract.

(2) The Contractor represents that he is not including in the price hereunder, and agrees that he will not hereafter include in any price to the Government, any charge or reserve for insurance (including any self-insurance funds or reserve) covering loss or destruction of or damage to the Government property caused by any excepted peril.

ALTERATIONS IN CONTRACT
(For C(P) - March 1967)
October 1968

(3) Upon the happening of loss or destruction of or damage to any Government property caused by an excepted peril, the Contractor shall notify the Contracting Officer thereof, and shall communicate with the Loss and Salvage Organization, if any, now or hereafter designated by the Contracting Officer, and with the assistance of the Loss and Salvage Organization so designated (unless the Contracting Officer has directed that no such organization be employed), shall take all reasonable steps to protect the Government property from further damage, separate the damaged and undamaged Government property, put all the Government property in the best possible order, and furnish to the Contracting Officer a statement of:

- (i) the lost, destroyed, and damaged Government property;
- (ii) the time and origin of the loss, destruction, or damage;
- (iii) all known interests in commingled property of which the Government property is a part; and
- (iv) the insurance, if any, covering any part of or interest in such commingled property.

The Contractor shall be entitled to an equitable adjustment in the contract price for the expenditures made by him in performing his obligations under this subparagraph (3) (including charges made to the Contractor by the Loss and Salvage Organization, except any of such charges the payment of which the Government has, at its option, assumed directly), in accordance with the procedures provided for in the 'Changes' clause of this contract.

(4) With the approval of the Contracting Officer after loss or destruction of or damage to Government property, and subject to such conditions and limitations as may be imposed by the Contracting Officer, the Contractor may, in order to minimize the loss to the Government or in order to permit resumption of business or the like, sell for the account of the Government any item of Government property which has been damaged beyond practicable repair, or which is so commingled or combined with property of others, including the Contractor, that separation is impracticable.

(5) Except to the extent of any loss or destruction of or damage to Government property for which the Contractor is relieved of liability under the foregoing provisions of this clause, and except for reasonable wear and tear or depreciation, or the utilization of the Government property in accordance with the provisions of this contract, the Contractor assumes the risk of, and shall be responsible for, any loss or destruction of or damage to the Government property, and such property (other than that which is permitted to be sold) shall be returned to the Government in as good condition as when received by the Contractor in connection with this contract, or as repaired under paragraph (f) above.

ALTERATIONS IN CONTRACT
(For C(P) - March 1967)
October 1968

(6) In the event the Contractor is reimbursed or compensated for any loss or destruction of or damage to the Government property, caused by an excepted peril, he shall equitably reimburse the Government. The Contractor shall do nothing to prejudice the Government's rights to recover against third parties for any such loss, destruction or damage and, upon the request of the Contracting Officer, shall at the Government's expense, furnish to the Government all reasonable assistance and cooperation (including the prosecution of suit and the execution of instruments of assignment in favor of the Government) in obtaining recovery. In addition, where a subcontractor has not been relieved from liability for any loss or destruction of or damage to the Government property, the Contractor shall enforce the liability of the subcontractor for such loss or destruction of or damage to the Government property for the benefit of the Government."

(iv) Delete paragraph (j) in its entirety and substitute in lieu thereof the following:

"(j) Restoration of Contractor's Premises and Abandonment. Unless otherwise provided herein, the Government:

(i) may abandon any Government property in place, and thereupon all obligations of the Government regarding such abandoned property shall cease; and

(ii) has no obligation to the Contractor with regard to restoration or rehabilitation of the Contractor's premises, neither in case of abandonment (paragraph (j)(i) above), disposition on completion of need or of the contract (paragraph (i) above), nor otherwise, except for restoration or rehabilitation costs which are properly included in an equitable adjustment under paragraph (b) above."

PRE-POST CLEARANCE MEMORANDUM

Contract Number: N00014-69-C-0181
Modification No: P00005
NR 309-005/7-14-71 & 11-22-71

UNCLASSIFIED

21 January 1972

Physiological Psychology Programs
Psychological Sciences Division

Randomline, Incorporated
Old York and Moreland Roads
Willow Grove, Pennsylvania 19010

1. Negotiations

Randomline, Inc. has been conducting research on the effects of exposure to radio frequency energy and related subjects under fixed price contract N00014-69-C-0181. Currently, said contract is scheduled to terminate on 14 February 1972 with a total fixed price of \$93,208.00. This office is in receipt of two proposals from the contractor requesting amounts of \$60,217.00 and \$24,633.00 to finance a one year extension of the research program. The cognizant Scientific Officer indicated his approval of an extension and submitted two procurement requests allocating the requested amounts. Under this contract the contractor is conducting two separate tasks being funded individually by ONR and NAVSHIPS. The NAVSHIPS supported program requires an additional expenditure of \$60,217.00. The contractor has provided a detailed breakdown of this amount. Salary rates quoted by the contractor are computed in accordance with the contractor's current salary policy and are considered acceptable. The contractor has budgeted overhead at the rate of 24% of direct costs which is the rate previously quoted and is considered acceptable. The contractor has requested a profit of 7.8%. This is the profit currently in effect and is considered reasonable for a fixed price type contract. The ONR supported task requires additional expenditures totaling \$24,633.00. Again, the salary rates are in accordance with the contractor's current salary policy and are considered acceptable. The contractor has budgeted overhead at 24% and requested a profit of 7.8% which are considered acceptable. The undersigned spoke with Mr. A. H. Frey of Randomline and a revised payment schedule was established for this modification.

2. Description of Work

The contract work statement is being revised to include updated research requirements.

3. Analysis of Price

There are attached hereto breakdowns in the amounts of \$24,633.00 and \$60,217.00, covering the period to 14 February 1973.


Contract Number: N00014-69-C-0181
Modification No: 05
Clearance Memo Continued

4. Authority and Reasonableness


Authority for the negotiation of the proposed modification is 10 U.S.C. 2304 (a)(11). D&F Number 44291, which cites 10 U.S.C. 2304(a)(11), has been prepared.

All negotiations for this procurement have been completed and this memorandum should suffice for both a pre-negotiation and post-negotiation clearance memorandum.

In the opinion of the undersigned, the terms and conditions of the proposed modification appear to be fair, reasonable and in the interest of the Government.



DAVID A. RODGERS, Contract Negotiator

APPROVED BY  _____

RANDOMLINE, INC.
OLD YORK & MORELAND ROADS
WILLOW GROVE, PENNA. 19090

(215) OL 0.6228

Budget

Professional (senior)	12 MM @ 1754/mo	21,048
Technician	15 MM @ 696/mo	10,440
Employee benefit	@ 17%	5,354
Travel		450
Material (computer time, model fabrication, tank, op amps, misc parts)		7,756
Indirect	@ 24%	10,812
Fee	@ 7.8%	4,357
Total		\$60,217

The expected completion date is 1 November 1972 assuming the contract begins by 1 February, 1972.

A. R. Zandle

Budget

Professional personnel (senior)	5.5 MM	@ 1660/mo	9,130
Technician	10.5 MM	@ 522/mo	5,480
Employee benefit		@ 17%	2,485
Material			945
Travel			338
Indirect		@ 24%	4,423
Fee		@ 7.8%	1,782
Total			\$24,633

a R. L. Kelley

DEPARTMENT OF THE NAVY
OFFICE OF NAVAL RESEARCH

DETERMINATION AND FINDINGS
Authority to Negotiate an Individual Contract

D&F No: 44291

Upon the basis of the following findings and determination, the proposed contract described below may be negotiated without formal advertising pursuant to the authority of 10 U. S. C. 2304(a)(11).

FINDINGS

86
106
1. The Office of Naval Research proposes to procure by negotiation, experimental, developmental or research work calling for research on behavioral biophysics. The proposed procurement will be in the form of a modification to Contract N00014-69-C-0181.

The proposed contract will not call for quantity production within the meaning of paragraph 3-211.3 of the Armed Services Procurement Regulation.

2. Procurement by negotiation of the above described services and property is necessary because it is impossible to describe in precise detail or by definite drawings and specifications the nature of the work to be done under the proposed contract; only the ultimate objectives and the scope of the work can be outlined.

3. Use of formal advertising for procurement of the above described services and property is impracticable because it is impossible to describe in precise detail or by any definite drawings and specifications, the nature of the work to be done; only the ultimate objectives and general scope of the work can be outlined.

DETERMINATION

The proposed contract is for research as defined in ASPR 4-101(a)(1).

Date:

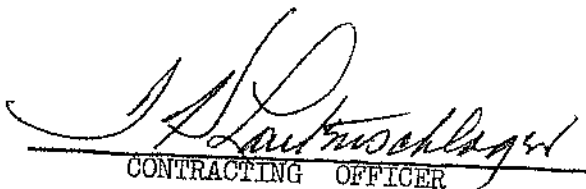
Nov 17, 1971

J. P. Hantushlager
Contracting Officer

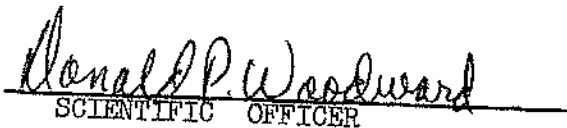
CONTRACT NUMBER: N00014-69-C-0181
MODIFICATION NO: P00005

STATEMENT OF JUSTIFICATION FOR
10 U.S.C. 2304(a)(11) NEGOTIATION

This contract will be negotiated with Randomline, Inc., a commercial organization, because it will provide for the continuation of a satisfactory research program based on the acceptance of an unsolicited proposal.


CONTRACTING OFFICER

CERTIFIED AS TO FACTS
AND REPRESENTATIONS:


SCIENTIFIC OFFICER

CONTRACT NUMBER: N00014-69-C-0181
MODIFICATION NUMBER: P00004

STATEMENT OF JUSTIFICATION FOR
10 U.S.C. 2304(a)(11) NEGOTIATION

This modification will be negotiated with Randomline, Inc., a commercial organization, because it provides for the expansion in scope of a contract under which Contractor has satisfactorily performed services in the past, and which the Scientific Officer considers worthy of additional financial support.

Harry A. Rantz
CONTRACTING OFFICER

CERTIFIED AS TO FACTS
AND REPRESENTATIONS:

Ronald B. Woodward
SCIENTIFIC OFFICER

CLEARANCE MEMORANDUM

NR 144-246/10-2-70

Contract Number: N00014-69-C-0181

Modification Number: P00004

UNCLASSIFIED

3 December 1970

Physiological Psychology Programs
Psychological Sciences Division

Randomline, Inc.
Old York and Moreland Roads
Willow Grove, Pennsylvania 19090

1. Statement of Facts

This fixed-price contract has a performance period commencing 15 February 1969 and ending 14 February 1972. The present total price is \$62,882.00. By its proposal of 14 September 1970, Contractor recommended an expansion in scope of the work being performed. Presently, the Contractor is studying the effects of exposure to radio frequency energy and ionized air on performance. The expansion in scope will involve a complete analytical review of unique sensory systems used by selected animals. The work description will be revised accordingly.

From the technical point of view, Contractor's proposal has received the approval of the Scientific Officer, who, by Procurement Request dated 2 October 1970, has made available \$30,326.00 of NavShips funds and has recommended that an appropriate modification be negotiated.

2. Analysis of the Price

An analysis of the price is as follows:

Project Director (A. H. Frey)	6 MM @ \$1,660/mo.	\$ 9,960.00
Engineer (E. Eichert)	3 MM @ \$1,120/mo.	3,360.00
Biologist (S. Feld)	5 MM @ \$ 740/mo.	3,700.00
Clerical	4 MM @ \$ 490/mo.	1,960.00
Employee Benefits	@ 17%	3,227.00
		480.00
Travel (for technical discussions)		5,445.00
Indirect Costs	@ 24%	
		2,194.00
Fee	@ 7.8%	
		<u>\$ 30,326.00</u>
	TOTAL PRICE	

Contract Number: N00014-69-C-0181
Modification Number: P00004
Clearance Memorandum

2. Analysis of the Price (Continued)

Salaries are in accordance with Contractor's currently approved salary policy. The items of employee benefits and overhead remain constant. The fee of 7.8% is the same as Contractor has been receiving and is considered to be very modest for a fixed-price type of contract.

3. Other Pertinent Information

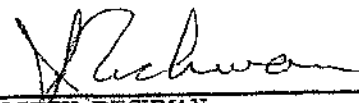
Since the work to be performed is an expansion in scope within the current term of the contract, no change in the completion date is involved.

No advertising costs have been included in Contractor's budget that are prohibited by the current DOD Appropriation.

4. Authority and Reasonableness

Authority for the negotiation of the proposed modification is 10 U.S.C. 2304(a)(11). D&F Number 42626, which cites 10 U.S.C. 2304(a)(11), has been prepared.

In the opinion of the undersigned, the terms and conditions of the proposed modification, as outlined above, appear to be fair, reasonable and in the interest of the Government.



JOSEPH RICHMAN
Contract Specialist

DEPARTMENT OF THE NAVY
OFFICE OF NAVAL RESEARCH

DETERMINATION AND FINDINGS
Authority to Negotiate an Individual Contract

D&F Number 42626

Upon the basis of the following findings and determination, the proposed contract described below may be negotiated, without formal advertising, pursuant to the authority of 10 U.S.C. 2304(a)(11).

FINDINGS

- 10/26*
1. The Office of Naval Research proposes to procure by negotiation experimental, developmental or research work calling for research and evaluation of an electrical sensing system. The proposed contract will be in the form of a Modification to Contract N00014-69-C-0181. The proposed contract will not call for quantity production within the meaning of paragraph 3-211.3 of the Armed Services Procurement Regulation.
 2. Procurement by negotiation of the above described services and property is necessary because it is impossible to describe in precise detail or by definite drawings and specifications the nature of the work to be done under the proposed contract; only the ultimate objectives and the scope of the work can be outlined.
 3. Use of formal advertising for procurement of the above described services and property is impracticable because it is impossible to describe in precise detail or by any definite drawings and specifications the nature of the work to be done; only the ultimate objectives and general scope of the work can be outlined.

DETERMINATION

The proposed contract is for engineering development as defined in ASPR 4-101 (a)(6).

Date

12/2/70

Harold L. Ravitz
Contracting Officer

CONTRACT NUMBER: N00014-69-C-0181
MODIFICATION NUMBER: P003

STATEMENT OF JUSTIFICATION FOR
10 U.S.C. 2304(a)(11) NEGOTIATION

This modification will be negotiated with Randomline, Inc., a commercial organization, because it provides for the continuation of a contract under which Contractor has satisfactorily performed services in the past, and which the Scientific Officer considers worthy of additional financial support.



CONTRACTING OFFICER

CERTIFIED AS TO FACTS
AND REPRESENTATIONS:



SCIENTIFIC OFFICER

CLEARANCE MEMORANDUM

NR 144-246/27 May 1970

Contract Number: N00014-69-C-0181

Modification Number: P003

UNCLASSIFIED

Physiological Psychology Program
Psychological Sciences Division

14 JUL 1970

Randomline, Inc.
Glenside Avenue and Limekiln Pike
Glenside, Pennsylvania 19038

1. Statement of Facts

With its letter of 15 May 1970 Contractor has submitted an unsolicited proposal to continue this contract and has requested the allocation of additional funds. This is a fixed priced contract covering the period commencing 15 February 1969 and ending 14 February 1971. The total price presently is \$41,610.

The Scientific Officer, by procurement request dated 27 May 1970 received in this office on 30 June 1970 has made available \$21,272 and has recommended that an appropriate modification be negotiated.

2. Description of Work

Generally, Contractor is performing research in the field of Behavioral Biophysics. During the proposed period of extension this same general scope of work will be continued and no change in the work description is presently required.

3. Analysis of Price

An analysis of the price is as follows:

Professional personnel (senior)	5.5 MM	@ 1490/mo	\$ 8,195
Technician	10 MM	@ 436/mo	4,360
Employee benefit		@ 17%	2,134
Material (small equipment items)			705
Travel (Includes NATO meeting in Munich)			520
Indirect		@ 24%	3,819
Fee		@ 7.8%	1,539
Total			\$21,272

The budget indicates a modest increase in salaries which, it is expected will be in accordance with Contractor's approved salary policy. The items of Material and Travel are modest in amount, are based on past experience and are considered necessary and reasonable by the Scientific Officer. The budget sets

NR 144-246/27 May 1970

Contract Number: N00014-69-C-0181

Modification Number: P003

3. Analysis of Price (Continued)

forth a modest increase in Indirect cost and this can be reasonably anticipated in an era of generally rising burden rates. The Fee of 7.8% is considered to be modest for a fixed priced type of contract.

4. Period of Performance

It is proposed to extend the completion date of this contract to 14 February 1972.

5. Other Pertinent Information


No advising costs have been included in the Contractor's budget. They are prohibited by the current D. O. D. appropriation.

The general provisions will be up dated.

6. Authority and Reasonableness

Authority for the negotiation of the proposed modification is 10 U. S. C. 2304 (a)(11). D & F Number 41659, which cites 10 U. S. C. 2304 (a)(11), has been prepared.

In the opinion of the undersigned, the terms and conditions of the proposed modification, as outlined above, appear to be fair, reasonable and in the interest of the Government.



JOSEPH RICHMAN
Contract Specialist

DEPARTMENT OF THE NAVY
OFFICE OF NAVAL RESEARCH

DETERMINATION AND FINDINGS
Authority to Negotiate an Individual Contract

D&F Number 41659

Upon the basis of the following findings and determination, the proposed contract described below may be negotiated, without formal advertising, pursuant to the authority of 10 U.S.C. 2304(a)(11).

FINDINGS

1. The Office of Naval Research proposes to procure by negotiation experimental, developmental or research work calling for research aimed at discovering and predicting the effects of air ions and centimeter electromagnetic energy upon the nervous system and on behavior. The proposed contract will be in the form of a Modification to Contract N00014-69-C-0181. The proposed contract will not call for quantity production within the meaning of paragraph 3-211.3 of the Armed Services Procurement Regulation.
2. Procurement by negotiation of the above described services and property is necessary because it is impossible to describe in precise detail or by definite drawings and specifications the nature of the work to be done under the proposed contract; only the ultimate objectives and the scope of the work can be outlined.
3. Use of formal advertising for procurement of the above described services and property is impracticable because it is impossible to describe in precise detail or by any definite drawings and specifications the nature of the work to be done; only the ultimate objectives and general scope of the work can be outlined.

DETERMINATION

The proposed contract is for research as defined in ASPR 4-101(a)(1).

Date

7/13
7/13/70

Harry L. Raitz
Contracting Officer

CLEARANCE MEMORANDUM

NR 144-246/12-22-69
Physiological Psychology Program
Contract No: N00014-69-C-0181
Modification No. P002

Unclassified

28 January 1970

Randomline, Inc.
York & Moreland Roads
Willow Grove, Pennsylvania 19090

1. Information Concerning this Modification

In its letter dated 3 December 1969 to the Physiological Psychology Program, Contractor requested the loan of three special systems which were acquired and used under Contract N00014-66-C0341 with HRB Singer. This contract expired on 31 March 1969 and will not be renewed.

The systems were used by Singer in the adjacent township to Willow Grove therefore, Randomline can take accountability for the systems without incurring shipping costs.

Contractor advises that the use of the systems will allow them to expand the scope of the work they are now conducting with no additional cost to the Government.

Contractor is now performing work under this contract in the experimentation with crustaceans cardiac response to rf energy to which they are now contractually committed. They will expand the scope of the work to do additional study on electrical gradient manipulation and effect of the olfactory mucosa response if these unique systems are provided. They will also evaluate the gradient effect on the EOG and higher neural interactions.

The additional work has considerable significance to the Navy and direct application to certain problems in submarine as well as other applications and it is expected that the data that would result would have a bearing on long term habitability aboard ships and lead to means to increase personnel effectiveness.

2. Accordingly, the Scientific Officer in Code 454 approved Contractor's request and forwarded a PR dated 22 December 1969 requesting this office to make the systems available to the contractor.

3. The undersigned discussed this matter with the ONR Property Branch and was advised by them that a modification should be processed to list the items of Government-Furnished Property as set forth in the inventory forwarded by the Contractor and when the modification has been executed accountability of the items will be transferred to Randomline Contract N00014-69-C-0181.


L. A. Duncker

CONTRACT NUMBER: N00014-69-C-0181
MODIFICATION NUMBER: P001

STATEMENT OF JUSTIFICATION FOR
10 U.S.C. 2304(a)(11) NEGOTIATION

This modification will be negotiated with Randomline, Inc., a commercial organization, because it provides for the continuation of a contract under which Contractor has satisfactorily performed in the past, and which the Scientific Officer considers worthy of additional financial support.

C. W. Larkins
CONTRACTING OFFICER

CERTIFIED AS TO FACTS
AND REPRESENTATIONS:

Donald P. Woodward Jr
SCIENTIFIC OFFICER

DETERMINATION AND FINDINGS

Authority to Negotiate Individual Contract for
Experimental, Developmental or Research Work

D&F Number 39557

On the basis of the following findings and determination, the proposed contract modification described below may be negotiated, without formal advertising, pursuant to the authority of 10 U.S.C. 2304(a)(11).

FINDINGS

1. It is proposed that the Contractor will continue to perform research aimed at discovering and predicting the effects of air ions and centimeter electromagnetic energy upon the nervous system and on behavior.
2. Within the Navy, there are many relatively closed spaces in which personnel are exposed to varying levels of electromagnetic radiation and/or ionized air which could effect individual performance. This work unit is concerned with the effects of exposure to radio frequency energy and ionized air on neural activity and behavior.
3. The proposed contract modification does not call for quantity production of any article.
4. It is impossible to describe in precise detail or by definite drawings and specifications the nature of the work to be done under the proposed contract modification; only the ultimate objectives and the general scope of the work can be outlined.
5. It is impracticable to procure this requirement by formal advertising because it is for study, investigation and experimentation which cannot be sufficiently described.

DETERMINATION

The proposed contract modification is for research as defined in ASFR 4-101(a)(1).

Date 8-21-69

C. W. Hartung
Contracting Officer

CLEARANCE MEMORANDUM

NR 144-246/8-6-69

Contract Number: N00014-69-C-0181

Modification Number: P001

UNCLASSIFIED

21 August 1969

Physiological Psychology Program
Psychological Sciences Division

Randomline, Inc.
Glenside Avenue and Limekiln Pike
Glenside, Pennsylvania 19038

1. Statement of Facts

Contractor has submitted an unsolicited proposal to continue this contract and has requested the allocation of additional funds. The contract, which is a fixed price contract, covers the period commencing 15 February 1969 and ending 14 February 1970. The total price presently is \$20,680.00.

The Scientific Officer, by Procurement Request dated 6 August 1969, has made available \$30,930.00 and has recommended that an appropriate modification be prepared.

2. Description of the Work

Generally, Contractor is studying the effects of exposure to radio frequency energy and ionized air on performance. During the proposed period of extension, this same general scope of work will be continued and no change in the work description is presently required.

3. Analysis of the Price

An analysis of the price is as follows:

Professional Personnel (Senior)	6MM @ 1408/mo.	\$ 8,448.00
Engineering Assistant	10MM @ 435/mo.	4,350.00
Employee benefits	@ 17%	2,176.00
Materials (Subjects and small equipment items)		915.00
Travel (for technical discussions with other investigators)		290.00
Indirect Costs	@ 20%	3,235.00
Fixed Fee	@ 7.8%	<u>1,516.00</u>
	TOTAL PRICE	<u>\$ 20,930.00</u>

Contract Number: N00014-69-C-0181
Modification Number: P001
Clearance Memorandum

3. Analysis of the Price (Continued)

There has been no increase in the salary of the senior professional but there has been a modest increase for the engineering assistant. The salaries are in accordance with Contractor's approved salary policy. A modest amount is made available for materials, which consists of subjects and small equipment items. Based on past experience, the amount made available is reasonable. Likewise a small amount is made available for local travel. Overhead at 20% is the same as heretofore and is acceptable to the cognizant government auditor in regard to fixed price contracts. The fee of 7.8% is considered to be modest.

4. Period of Performance

It is proposed by this modification to extend the completion date of this contract to 14 February 1971.

5. Other Pertinent Information

No advertising costs have been included in the Contractor's budget that are prohibited by the current DOD Appropriation.

6. Authority and Reasonableness

Authority for the negotiation of the proposed modification is 10 U.S.C. 2304(a)(11). D&F Number 39557, which cites 10 U.S.C. 2304(a)(11), has been prepared.

In the opinion of the undersigned, the terms and conditions of the proposed modification, as outlined above, appear to be fair, reasonable and in the interest of the Government.


JOSEPH RICHMAN
Contract Specialist

CERTIFICATION OF RESPONSIBLE CONTRACTOR

CONTRACT NUMBER: NO0014-69-C-0181

NR # 144-246/8-23-68 or Requisition # _____

1. The proposed contractor, Randomline, Inc.

- (a) is a manufacturer or regular dealer. (yes)
- (b) has adequate financial resources, or the ability to secure such resources. (yes)
- (c) has the necessary experience, organization, and technical qualifications, and has or can acquire the necessary facilities (including probable subcontractor arrangements) to perform the proposed contract. (yes)
- (d) is able to comply with the required delivery or performance schedule. (yes)
- (e) has a satisfactory record of performance, integrity, judgment, and skills. (yes)
- (f) is otherwise qualified and eligible to receive an award under applicable laws and regulations. (yes)

2. Was a pre-award survey required. (no)

A pre-award survey was required and was obtained with favorable/unfavorable (cross out one) comments. If unfavorable, give reasons for over-ruling.

William C. Sullivan
Contract Specialist

In accordance with the requirements of ASPR 1-904, I hereby certify that the proposed contractor for this procurement is responsible.

C. W. Lasky
Contracting Officer

CONTRACT NUMBER: N00014-69-C-0181

STATEMENT OF JUSTIFICATION FOR
10 U.S.C. 2304(a)(11) NEGOTIATION

This contract will be negotiated with Randomline, Inc., a commercial organization, because the proposal was proprietary with the Contractor, and the Scientific Officer considers the task worthy of financial support.

C.W. Larkins
CONTRACTING OFFICER

CERTIFIED AS TO FACTS
AND REPRESENTATIONS:

Ronald R. Woodward
SCIENTIFIC OFFICER

DETERMINATION AND FINDINGS

Authority to Negotiate Individual Contract for
Experimental, Developmental or Research Work

D&F Number 37658

On the basis of the following findings and determination, the proposed contract described below may be negotiated without formal advertising, pursuant to the authority of 10 U.S.C. 2304(a)(11).

FINDINGS

1. It is proposed that the Contractor will perform research aimed at discovering and predicting the effects of air ions and centimeter electromagnetic energy upon the nervous system and on behavior.
2. Within the Navy, there are many relatively closed spaces in which personnel are exposed to varying levels of electromagnetic radiation and/or ionized air which could effect individual performance. This work unit is concerned with the effects of exposure to radio frequency energy and ionized air on neural activity and behavior.
3. The proposed contract does not call for quantity production of any article.
4. It is impossible to describe in precise detail or by definite drawings and specifications the nature of the work to be done under the proposed contract; only the ultimate objectives and the general scope of the work can be outlined.
5. It is impracticable to procure this requirement by formal advertising because it is for study, investigation and experimentation which cannot be sufficiently described.

DETERMINATION

The proposed contract is for research as defined in ASPR 4-101(a)(1).

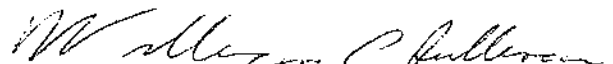
Date 1-23-69

C.W. J. Farley
Contracting Officer

N00014-69-C-0181

SUPPLEMENTARY CLEARANCE MEMORANDUM

Subsequent to the preparation of the Clearance Memorandum dated 21 January 1969, it was determined to establish a fixed price contract for this research program. Mr. Zandle of Randomline, Inc. agreed to accept a fixed price contract.


WILLIAM C. SULLIVAN
Contract Specialist

CLEARANCE MEMORANDUM

NR 144-246/8-23-68

Contract Number: N00014-69-C-0181

UNCLASSIFIED

21 January 1969

Physiological Psychology Branch
Psychological Sciences Division

Randomline, Inc.
Glenside Avenue & Linellin Pike
Glenside, Pennsylvania 19038

1. Statement of Facts

By letter dated 8 August 1968, Randomline, Inc. submitted a proposal to conduct research on electrical environment and neural functions. Included in the Contractor's proposal is a budget setting forth a figure of \$20,680.00 for the research program.

The cognizant Scientific Officer reviewed and approved the Contractor's proposal, and by Procurement Request 144-246, dated 23 August 1968, made available the requested funds.

2. Selection of Contractor and Contract Type

The Scientific Officer stated that the Contractor was selected on the basis of an unsolicited proposal. "The principal investigator, A. H. Frey, is a recognized expert in the fields of the effects of air ionization and electromagnetic radiation on the human nervous system and behavior."

Randomline, Inc. was incorporated early in 1968. This will be the Contractor's first DOD contract. The Contractor presently employs five professional researchers. Facilities measure about 1600 square feet. The principle stock holder is Mr. Zandle and the majority of the stock is held by employees. While the Contractor has not been audited by the Department of Defense, experience in rendering services to other commercial organizations has satisfied them that the overhead of 20% is reasonable.

The contract type will be cost plus fixed fee. This program is essentially a continuing research effort. The principal investigator has been conducting research in this field since 1960.

3. Description of Work

Generally, the Contractor will conduct research on the effects of exposure to radio frequency, energy, and ionized air on performance.

Contract Number: NO0014-69-C-0181

4. Analysis of Cost

Professional personnel (senior)	6MM @ 1408/mo	\$ 8,448.00
Engineering assistant	10MM @ 426/mo	4,260.00
Employee benefit	@ 14%	1,778.00
Materials (subjects and small equipment items)		1,120.00
Travel (for technical discussions with other investigators)		380.00
Indirect	@ 20%	<u>3,198.00</u>
	ESTIMATED COST	\$19,184.00
	FIXED FEE (7.8%)	<u>1,496.00</u>
	TOTAL	<u>\$20,680.00</u>

Nearly the entire budget is allocated to direct labor and overhead. Wages are payable in accordance with the Contractor's policy. Funds requested for materials will be used in the procurement of animals for experimentation, paper, etc. The Contractor's estimate for overhead is based upon his experience and would appear acceptable for this relatively small contract. The DOD auditor should be contacted prior to modification of this contract for verification of actual overhead experience. The Contractor has requested a fee of 7.8% which appears reasonable.

5. Period of Performance

The Contractor requested that the period of performance commence on 15 February 1969. Completion will, therefore, be 14 February 1970.

6. Other Pertinent Information

The Patent Rights (Deferred) clause will be applicable to this contract.

This contract will include the latest General Provisions.

7. Authority and Reasonableness

Authority for the negotiation of the proposed contract is 10 U.S.C. 2304(a)(11). D&F Number 37658, which cites 10 U.S.C. 2304(a)(11), has been prepared.

In the opinion of the undersigned, the terms and conditions of the proposed contract, as outlined above, appear to be fair, reasonable and in the interest of the Government.


WILLIAM C. SULLIVAN
Contract Specialist

PRE-AWARD CONTRACT PATENT RIG DETERMINATION NAVSO 5870/15 (Rev. 5-65)

One copy of this form, with signatures as indicated, should accompany the research procurement request to the Contracting Officer (for New Work, Expansions and Equipment Loans).

PROCUREMENT OF (Contract, request, or other) NR

C9-C-0181

144-246

I. PURPOSE OF THE PROPOSED PROCUREMENT

	YES	NO		YES	NO
1. Is a principal purpose of the proposed contract, either by itself or as one of a series of directly related contracts, to create, develop or improve an end item intended for use in the civilian economy? (Need not necessarily require delivery of the end item. End item may be a product, a process or data.)		X	5. Is the contract for procurement in a field of science or technology in which the Government has been the principal developer of the field? (The fact that the Government has been the principal developer of a specific piece of hardware does not make the Government the principal developer in a field of science which encompasses the piece of hardware.)		X
2. Is a principal purpose of the proposed contract, either by itself or as one of a series of directly related contracts, to create, develop or improve an end item which will be required for use by the general public by a Government regulation?		X	6. Does the contract require that the contractor provide services for the operation of a Government-owned research or production facility and perform experimental, developmental or research work at that facility?		X
3. Is a principal purpose of the contract directly concerned with public health or public welfare (as distinguished from a predominantly military purpose)?		X	7. Does the contract require contractor to coordinate and direct the work of others (as distinguished from the normal contractor-subcontractor relationship) which might result in a potential organizational conflict of interest?		X
4. Is the contract for procurement in a field of science or technology in which there has been little significant experience outside of work funded by the Government? (The fact that the Government has been the principal funder of a specific piece of hardware does not make the Government the principal funder in a field of science which encompasses the piece of hardware.)		X	REMARKS		

BRANCH HEAD (Signature)

GILBERT C. TOLHURST

ACTIVITY

454

DATE

8/23/68

II. STATUS OF PROSPECTIVE CONTRACTOR

	YES	NO		YES	NO
1. (a) Is contractor an educational or non-profit institution?		X	4. (b) Is contractor regularly engaged in the sale or licensing of such products or services to—		X
(b) If the answer to (a) is "Yes", has contractor's patent policy been approved by Department of Defense?		X	the U.S. general public (including business concerns)		X
ANSWER #2, 3 AND 4 ONLY IF ANSWER TO QUESTION 1(a) IS "NO".			the U.S. Government		X
2. (a) Is contractor a "newly formed" research and development organization? Inc. 1968		X	foreign governments		X
(b) Is contractor a "new" independent research and development division or a subsidiary of an older organization?		X	foreign nationals (including business concerns)		X
NOTE: An organization under 2(a), or division or subsidiary under 2(b), established more than five years shall NOT be considered "newly formed" or "new".			(c) Has contractor developed non-governmental commercial markets for inventions in an area directly related to the field of technology which includes the work called for by this procurement request?		X
3. If the answer to 2(a) or 2(b) is "yes", does contractor have a definite program for establishing a non-governmental commercial position? (If answer is "yes", contractor should be required to define his program.)		X	5. If 4(a), (b) or (c) are answered "Yes", give basis for answer. (Attach separate page if additional space is needed.)		
4. (a) Is contractor a manufacturer or source of products or services in an area directly related to a field of technology which includes work called for under this request?		X	Deferred OK.		

CONTRACT SPECIALIST (Signature)

ACTIVITY

66667

DATE

20 Jan 69

III. PATENT COUNSEL EVALUATION

If Question 4 or 5, in Part I, is answered "Yes", would contractor be likely to get a preferred or dominant commercial position if he were permitted to acquire title to inventions under the contract?	YES	NO	REMARKS
			The Patent Rights (Deferred) clause is recommended because the contractor has not established a "non-governmental commercial position" in the area of the contract.
			PATENT COUNSEL (Signature)
			315
			DATE
			24 Jan 1969

IV. CONTRACTING OFFICER'S DETERMINATION

Patent Rights clause as indicated below shall be included in this contract:

☐ ASPR 9-107.5(a) - Title

☐ ASPR 9-107.5(b) - License

☒ ASPR 9-107.5(c) - Deferred

CONTRACTING OFFICER (Signature)

C.W. J. Lott

ACTIVITY

ONR

DATE

1-27-69

ONR WORKSHEET FOR
INDIVIDUAL PROCUREMENT ACTION REPORT (DD-350)
NAVS0 4200/6 (REV. 11-68)

CONTRACTOR (Name and Address) Randomline, Incorporated Old York & Moreland Roads, Willow Grove, Pennsylvania 19010 Attn: A. R. Zandel	ADMIN OFFICE
	DCASR Philadelphia S3910A
	DISBURSING OFFICE (Name and Account No.) DCASR Philadelphia S3910A

CONTRACT IDENTIFICATION

FIRM FIXED-PRICE	C	C(P)	F	CONTRACT NO.	AMENDMENT NO.
		XXXX		N00014-69-C-0181	P00005
COST TYPE	A	B		DOCUMENT TO BE DATED	NR NO.
OTHER (Specify)				72FEB14	309-005/7-14-71 and 11-22-71
DESCRIPTION OF CONTRACTUAL SERVICES					

ALEI - Electronics - S-1

Note #1: Attach Individual Procurement Action Report form DD-350 as part of this Worksheet and fill in data as applicable.

Note #2: Review check-list below for completion of additional contract preparatory actions.

CHECK LIST OF PREPARATORY ACTIONS	REQUIRED		STATUS
	YES	NO	
STATEMENT FROM CONTRACTOR RE USE OF COMPANY OR PERSON TO SOLICIT	X		<input checked="" type="checkbox"/> RECEIVED <input type="checkbox"/> NOT RECEIVED
CONTRACTING OFFICER'S STATEMENT		X	
NEGOTIATION CLEARANCE (NAVEXOS-2759)		X	NO.
AUTHORITY TO CONTRACT - "BUSINESS" CLEARANCE (NAVEXOS-2760)		X	NO.
METHOD OF CONTRACTING (D & F)		X	NO. \$
NEGOTIATION D & F	X		NO. 44291 \$ 84,850
DD-254 (If required, identify: Basic; Amend.; Annex; Other)		X	dtd. 5-27-70

REMARKS
The Scientific Officer has certified that the DD 254 has been reviewed for currency.

72

FEB 11 1972

ONR TECHNICAL CODE/BUREAU Code 441	
ACTION DATES	
PR OR REQUISITION DATED	7-14-71 11-22-71
PR/REQUISITION RECEIVED IN CODE 600	7-28-71 12-29-71
PROCUREMENT PACKAGE RELEASED FROM NEGOTIATION	
MAILED TO CONTRACTOR	FEB 29 1972
FINAL EXECUTION	MAR 7 1972
BEGINNING DATE OF CONTRACT ACTION	72 FEB14
SIGNATURE David A. Rodgers Contract Negotiator	DATE 1/26/72

ONA PROCUREMENT REQUEST AND AP
NAVSO 3900/3 (REV. 1-71)

1. SUBMISSION DATE

14 Jul 71

2. CURRENT SECURITY REQUIREMENTS

DD-254 DATED 27 May 1970

NONE ☐

3. TASK TITLE (UNCLASSIFIED EAM TITLE REQUIRED)

EAM: Behavioral Biophysics

4. CONTRACTOR (NAME AND LOCATION OF WORK PERFORMANCE)

Randomline, Inc.
Old York & Moreland Roads
Willow Grove, Pennsylvania 19010

5. PRINCIPAL INVESTIGATOR

A. H. Frey

6. BASIS FOR CONTRACTOR SELECTION
(New procurement only)

8. EXPENDITURE RATE

a. FY b. AMOUNT

UNSOLICITED PROPOSAL

72

\$ 9,000

SOLE SOURCE

73

15,633

SOLICITATION

9. RECOMMENDATION

a. INSTRUMENT

b. TYPE OF ACTION

CONTRACT

X

NEW

RENEWAL

ACCELERATION

EXPANSION

EQUIPMENT LOAN

OVER-RUN

NO-FUNDS EXTENSION

REDUCTION

REOPENED

CORRECTION

X

10. PERIOD TO BE COVERED BY THIS
PROCUREMENT ACTION (enter dates)

FROM 15 Feb 72 TO 14 Feb 73

7A. ☐ UNCLASSIFIED OCEANOGRAPHIC ENVIRONMENTAL DATA INVOLVED

To perform research aimed at more precisely identifying and predicting the effects of air ions and electromagnetic energy upon the nervous system and on behavior.

I certify that the DD-254 has been reviewed for currency.

DONALD P. WOODWARD

11.

NR 309-005

(formerly NR 144-246)

12. CONTRACT NUMBER

N 00014-69-C-0180

13. TASK SUPERVISOR

DONALD P. WOODWARD

14. SOURCE OF FUNDS

a. CODE OR AGENCY

b. SUB-PROJECT (TASK AREA)
END ITEM AND TASK NR NO.

c. FY

d. AMOUNT

APPROPRIATION

OBJ. CLASS

UIC

SA NO.

AUTH. ACCT. NO.

T

PROG. ELE. PROJ. ID.

COST CODE

441

RR 041-01-03, 1-12

72

\$ 24,633

1221319.121

000

00014

0

000014

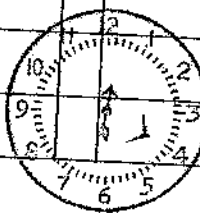
28

124101

03000000/K41

NR 309-005
4101-030

JUL 28 '71 PM



TRANSFER OF FUNDS FROM (Code)

f. AMOUNT APPROVED

15. COMMITMENT

TRANSMITTAL NO.

24633.00

17. ACR APPROVALS (Typed names and signatures)

(Initials and date)

7-28-71

PROGRAM DIRECTOR

DIVISION DIRECTOR

ONR COMPTROLLER

LEONARD M. LIBBER
DIRECTOR OF RESEARCH

J. P. FOLLARD
ASSISTANT CHIEF FOR RESEARCH

G. WEINBERG

/s/ A. H. WEINBERG

R. V. HAYES, CAPT, USN

Signed

22 JUL 1971

RESEARCH AND TECHNOLOGY WORK UNIT SUMMARY						1. AGENCY ACCESSION		2. DATE OF SUMMARY		REPORT CONTROL SYMBOL	
3. DATE PREV SUMMARY		4. KIND OF SUMMARY		5. SUMMARY SCTY*		6. WORK SECURITY*		14 Jul 71			
2 Oct 70		D. Change		U		U		NA		NL	
10. NO / CODES*		PROGRAM ELEMENT		PROJECT NUMBER		TASK AREA NUMBER		7. REGRADING*		8. DISB'N INSTR'N	
a. PRIMARY		61102N-42		RR 041-01		RR 041-01-03		NR		309-005	
b. CONTRIBUTING											
c. CONTRIBUTING											
11. TITLE (Precede with Security Classification Code)*											
(U) PERSONNEL TECHNOLOGY: The Effects of Ionized Air and Radio Energy upon the Performance of Naval Personnel											
12. SCIENTIFIC AND TECHNOLOGICAL AREAS*											
013400 Psychology; 002400 Bioengineering; 016200 Stress physiology											
13. START DATE		14. ESTIMATED COMPLETION DATE		15. FUNDING AGENCY		16. PERFORMANCE METHOD					
Feb 69		CONF		DN		B. Contract					
17. CONTRACT/GRANT				18. RESOURCES ESTIMATE				a. PROFESSIONAL MAN YRS			
a. DATES/EFFECTIVE:				b. NUMBER*				c. FUNDS (in thousands)			
b. NUMBER:*				c. TYPE:				d. AMOUNT:			
N00014-69-C-0181				EXT				71			
c. KIND OF AWARD:				f.				72			
19. RESPONSIBLE DOD ORGANIZATION				20. PERFORMING ORGANIZATION				72			
NAME:*				NAME:*				B. Contract			
ADDRESS:*				ADDRESS:*				Old York & Moreland Roads			
OFFICE OF NAVAL RESEARCH				Randomline, Inc.				Willow Grove, Pa. 19090			
DEPARTMENT OF THE NAVY				PRINCIPAL INVESTIGATOR (Furnish SSAN if U.S. Academic Institution)							
ARLINGTON, VIRGINIA 22217				NAME:*				Frey, A. H.			
RESPONSIBLE INDIVIDUAL				TELEPHONE:*				(215) 699-6228			
NAME: LIBNER, L. M., Dr.				SOCIAL SECURITY ACCOUNT NUMBER:							
TELEPHONE: AREA Code -202-441-4055				ASSOCIATE INVESTIGATORS							
21. GENERAL USE				NAME:							
				NAME:							
22. KEYWORDS (Precede EACH with Security Classification Code)											
(U) Electromagnetic energy; (U) Nervous system; (U) Air ions; (U) Bio-electricity; (U) sensors											
23. TECHNICAL OBJECTIVE, 24. APPROACH, 25. PROGRESS (Furnish individual paragraphs identified by number. Precede text of each with Security Classification Code.)											
23. (U) Within the Navy, there are many relatively closed spaces in which personnel are exposed to varying levels of electromagnetic radiation and/or ionized air which could affect individual performance. This work unit is concerned with the effects of exposure to radio frequency energy and ionized air on neural activity and behavior.											
24. (U) Work planned for the coming year includes (1) experimentation on olfactory sensitivity and the influence of various conductivity parameters on odor perception, (2) experimentation to attempt to determine if low-power radio frequency energy has rewarding motivational properties, aversive motivational properties, or is essentially neutral with regard to motivating an organism.											
25. (U) Recently completed olfactory experimentation, using electro-olfactogram techniques, compared a new odorant exposure technique involving special air flow conditions and control of the electrostatic environment, with the classic procedure using a high velocity puff of odorized air without electrostatic controls. The typical negative voltage response was obtained with the classic high velocity puff procedure. A slowly developing negative voltage response was obtained with tissue exposure to low velocity but not laminar flowing odorized air. In contrast, a biphasic wave with an initial positive component lasting until the offset of odorized air was obtained when low velocity, laminar flowing air was used and the electrostatic environment was controlled. These results may help to bring together previous disparate experimental findings. A review paper on the influence of low-power modulated rf energy on biological function was published. Considerable reaction to it is expected.											
Frey, A., "Biological Function as Influenced by Low-Power Modulated RF Energy", Trans. on Microwave Theory and Techniques, Feb 1971.											

MILITARY FUNCTION/OPERATION STATEMENT
 NAVSO 3900/7 (REV. 5-71) OFFICE OF NAVAL RESEARCH

NR NUMBER	DATE OF PR	CONTRACT NUMBER	MODIFICATION NUMBER
NR- 309-005	14 Jul 71	N00014-69-C-0180	
CONTRACTOR (NAME ONLY)			PROPOSED FUNDING
Randomline, Inc.			\$ 24,633

RELATIONSHIP TO A MILITARY FUNCTION OR OPERATION

1. The work to be accomplished under this procurement relates to the following military function or operation: the effect of radio frequency energy on body functioning and performance of Naval/Marine Corps personnel

ASB for BDCW

Donald P. Woodward

DONALD P. WOODWARD

SCIENTIFIC OFFICER

DD FORM 101-1 PRECUREMENT REQUEST AND APPROPRIATION
NAVSO 3900/3 (REV. 1-71)

1. SUBMISSION DATE
22 Nov 1971

2. CURRENT SECURITY REQUIREMENTS
DD-254 DATED 27 May 1970

3. TASK TITLE (UNCLASSIFIED EAM TITLE REQUIRED)

EAM: Behavioral Biophysics

4. CONTRACTOR (NAME AND LOCATION OF WORK PERFORMANCE)

Randomline, Inc.
Old York & Moreland Roads
Willow Grove, Pennsylvania 19010

5. PRINCIPAL INVESTIGATOR
A. H. Frey

6. BASIS FOR CONTRACTOR SELECTION
(New procurement only)

UNSOLICITED PROPOSAL
SOLE SOURCE
SOLICITATION

8. EXPENDITURE RATE

a. FY b. AMOUNT

9. RECOMMENDATION

a. INSTRUMENT

b. TYPE OF ACTION

CONTRACT	X	NEW	
		RENEWAL	
GRANT		ACCELERATION	X
		EXPANSION	X
OTHER		EQUIPMENT LOAN	
		OVER-RUN	
		NO-FUNDS EXTENSION	
		REDUCTION	
		REOPENED	
		CORRECTION	

10. PERIOD TO BE COVERED BY THIS
PROCUREMENT ACTION (enter dates)

FROM 15 Feb 72 TO 14 Feb 73

7. CONTRACT DESCRIPTION OF WORK

7A. ☐ UNCLASSIFIED OCEANOGRAPHIC ENVIRONMENTAL DATA INVOLVED

To continue definition, development, optimization, and test of a fixed small scale model of weakly electric fish to assess its possible utility in detecting various metal and non metal objects in water.

Note to 600: If possible this acceleration should be negotiated at the same time as the renewal PR submitted 14 July 71 for same effective dates.

I certify the DD-254 has been reviewed for currency. *OPW*

11. NR 309-005 (formerly NR)				12. CONTRACT NUMBER 00014-69-C-0180				13. TASK SUPERVISOR (Signature) Donald P. Woodward			
14. SOURCE OF FUNDS				15. FOR USE OF COMPTROLLER'S OFFICE							
a. CODE OR AGENCY	b. SUB-PROJECT (TASK AREA) END ITEM AND TASK NR NO.	c. FY	d. AMOUNT	APPROPRIATION	OBJ. CLASS	UIC	SA NO.	AUTH. ACCT. NO.	T	PROG. ELE. PROJ. ID.	COST CODE
441	NR 309-005 4101-030	72	0	12X1319.14	000	00014	0	000014	28		
NAV- HTPS	03543-03543-2-1204	72	\$60,217	1213192427	000	00024	0	065872	28	602705	000064/110000
c. TRANSFER OF FUNDS FROM (Code)				f. AMOUNT APPROVED				16. COMMITMENT			
1/SSC				60,217				TRANSMITTAL NO.			
								(initials and date) 12/20/71 me			

17. ACR APPROVALS (Typed names and signatures)

PROGRAM DIRECTOR
LEONARD M. LIBBER

DIVISION DIRECTOR RESEARCH
PROCUREMENT J. P. POLLARD

DIRECTOR OF RESEARCH
E. H. WEINBERG

Signed

ASSISTANT CHIEF FOR RESEARCH
R. V. HAYES, CAPT, USN

1 DEC 1971

RESEARCH AND TECHNOLOGY WC UNIT SUMMARY				1. AGENCY ACCESSION*	2. DATE OF SUMMARY*	REPORT CONTROL SYMBOL	
3. DATE PREV SUMMARY 14 Jul 71	4. KIND OF SUMMARY D. Change	5. SUMMARY SCTY* U	6. WORK SECURITY* U	7. REGRADING* NA	8A. DISB'N INSTR'N NL	8B. SPECIFIC DATA - CONTRACTOR ACCESS <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	9. LEVEL OF SUMMARY A. WORK UNIT
10. NO / CODES*		PROGRAM ELEMENT	PROJECT NUMBER	TASK AREA NUMBER		WORK UNIT NUMBER	
a. PRIMARY		NAVSHIPS				NR 309-005	
b. CONTRIBUTING		61102N	RRO41-01	RRO41-01-03			
c. CONTRIBUTING							
11. TITLE (Precede with Security Classification Code)* (U) PERSONNEL TECHNOLOGY: The Effects of Ionized Air and Radio Energy upon the Performance of Naval Personnel							
12. SCIENTIFIC AND TECHNOLOGICAL AREAS* 013400 Psychology; 002400 Bioengineering; 016200 Stress Physiology							
13. START DATE Feb 69		14. ESTIMATED COMPLETION DATE Cont		15. FUNDING AGENCY DN DN		16. PERFORMANCE METHOD B. Contract	
17. CONTRACT/GRANT				18. RESOURCES ESTIMATE		19. PROFESSIONAL MAN YRS	
a. DATES/EFFECTIVE:		EXPIRATION:		PRECEDING		FUND (in thousands)	
b. NUMBER: N00014-69-C-0151				FISCAL YEAR CURRENT 71		1.0 43.2	
c. TYPE:		d. AMOUNT:		72		1.31 59.0	
e. KIND OF AWARD: SUP							
19. RESPONSIBLE DOD ORGANIZATION				20. PERFORMING ORGANIZATION			
NAME: OFFICE OF NAVAL RESEARCH ADDRESS: DEPARTMENT OF THE NAVY ARLINGTON, VIRGINIA 22217				NAME: Randomline, Inc. ADDRESS: Old York & Moreland Roads Willow Grove, Pa. 19090			
RESPONSIBLE INDIVIDUAL				PRINCIPAL INVESTIGATOR (Furnish SSAN if U.S. Academic Institution)			
NAME: LIBBER, I. M., Dr. 441				NAME: Frey, A. H.			
TELEPHONE: AREA Code -202-692-4055				TELEPHONE: (215) 699-6228			
				SOCIAL SECURITY ACCOUNT NUMBER:			
21. GENERAL USE				ASSOCIATE INVESTIGATORS			
				NAME:			
				NAME:			
22. KEYWORDS (Precede EACH with Security Classification Code) (U) PERSONNEL TECHNOLOGY: (U) Air ions; (U) Bio-electric (U) Electromagnetic energy; (U) Nervous system; (U) Electrophysiological; sensors							
23. (U) The detection, identification and classification of objects underwater is a continuing Navy problem. During this acceleration, work will continue on development and testing of a small scale model of weakly electric fish as one possible solution to this problem.							
24. (U) This effort will be concerned with further definition, development, and testing of a fixed small scale model of weakly electric fish, to determine the effectiveness of such a model in detection and classification of objects underwater. The work will be iterative in nature, alternating among data gathering with the small scale model, modification of a mathematical model, and further testing and data gathering on the fish itself.							
25. (U) Progress on the work under the basic contract has been previously reported (14 July 71). Work completed related to this effort consisted of a review of the literature, preliminary data gathering, and mathematical analysis of the object detecting behavior of weakly electric fish. Results strongly suggest that a model for detection and classification of objects in brackish and fresh water could be built using principles employed by weakly electric fish, and that the classification capability may be better than currently used devices.							
Frey, A. "Biological Function as Influenced by Low-Power Modulated RF Energy", Trans. on Microwave Theory and Techniques, Feb. 1971.							

* Available to contractors upon originator's approval

MILITARY FUNCTION/OPERATION STATEMENT

OFFICE OF NAVAL RESEARCH

NAVS0 3900/7 (REV. 5-71)

NR NUMBER NR-309-005	DATE OF PR 22 Nov 71	CONTRACT NUMBER N00014-69-C-0180	MODIFICATION NUMBER
CONTRACTOR (NAME ONLY) Randomline, Inc.			PROPOSED FUNDING \$ \$60,217

RELATIONSHIP TO A MILITARY FUNCTION OR OPERATION

1. The work to be accomplished under this procurement relates to the following military function or operation: relates to the detection and classification of objects underwater.


DONALD P. WOODWARD

SCIENTIFIC OFFICER

REQUISITION AND INVOICE/SHIPPING DOCUMENT

Commander, Naval Ship Systems Command
Department of the Navy, Washington, D.C. 20360
Chief of Naval Research
Department of the Navy
Washington, D.C. 20360
ATTN: OMR 433

3. SHIP TO - MARK FOR

7. DATE MATERIAL REQUIRED
31 December 1972

8. AUTHORITY OR PURPOSE

9. 2705, Tank 15645, Bio-Electrical Sensor
113. VOUCHER NUMBER AND DATE

10. SIGNATURE
JOHN GIBLIN

12. DATE SHIPPED
by direction

13. MODE OF SHIPMENT

14. BILL OF LADING NUMBER

15. AIR MOVEMENT DESIGNATOR OR PORT REFERENCE NO.

4. APPROPRIATION AND SUBHEAD				OBJ. CL.	BUR. CONT. NO.	SUBAL- LOT.	AUTHORIZATION ACT'G ACTIVITY	TRANS. TYPE	PROPERTY ACT'G ACTIVITY	SUPPLY ACTION	COUNT- TRY	COST CODE	AMOUNT
1741319.2427				000	00024	0	065872	23	602705	(From 0354-0354-2-1204)		000064110004	\$60,217.00
82705 Tank 15645 Element 637224												PGC 03543	
ITEM NO.	FEDERAL STOCK NUMBER, DESCRIPTION, AND CODING OF MATERIAL AND/OR SERVICES	UNIT OR ISSUE	QUANTITY REQUESTED	SUPPLY ACTION	CON- TAINER NOS.	UNIT PRICE	TOTAL COST						
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)						
	ACCEPTANCE OF THIS ORDER: It is requested that this requisition be accepted by completing four (4) requisition acceptance forms, signing one of them and returning them as soon as possible but not later than 30 days hereof to NAVSHIPS 10243.						60,217.00						
	DESCRIPTION OF WORK: This requisition is to provide funding for work on Bio-electrical Sensors, as described in Randoline, Inc. proposal of 14 Nov 1971, under OMR Contract N00014-69-C-0151, as confirmed with Dr. D.P. Woodward OMR Code 433.												
	NOTE TO CONTRACTING OFFICER: It is requested that copies of all obligating documents be furnished to NAVSHIPS 033F (1 confirmed copy), 03543, 10243, and SA 12242.												
	which is a statutory limitation Sec. 3679 R.S.												
	Copy for OMR 434, SA 12242, NAVSHIPS 033F, 03543, 10243												

16. TRANSPORTATION VIA MATS OR MTS CHARGEABLE TO

17. SPECIAL HANDLING	TOTAL WEIGHT	TOTAL CUBE	18. CONTAINERS RECEIVED EXCEPT AS NOTED	DATE	BY	SHEET TOTAL
ISSUED BY			QUANTITIES RECEIVED EXCEPT AS NOTED	DATE	BY	GRAND TOTAL
CHECKED BY			POSTED	DATE	BY	\$60,217.00
PACKED BY						

DD FORM 1 MAR 59 1149 (G.P.T.)

REPLACES EDITION OF 1 MAY 58 WHICH MAY BE USED

S/N 0102-011-1801

ONP PROCUREMENT REQUEST AND A' OVAL
NAVSO 3900/3 (REV. 1-71)

1. SUBMISSION DATE

14 Jul 71

2. CURRENT SECURITY REQUIREMENTS

DD-254 DATED 27 May 1970 NONE ☐

3. TASK TITLE (UNCLASSIFIED EAM TITLE REQUIRED)

EAM: Behavioral Biophysics

4. CONTRACTOR (NAME AND LOCATION OF WORK PERFORMANCE)

Randomline, Inc.
Old York & Moreland Roads
Willow Grove, Pennsylvania 19010

5. PRINCIPAL INVESTIGATOR

A. H. Frey

6. BASIS FOR CONTRACTOR SELECTION
(New procurement only)

8. EXPENDITURE RATE

	a. FY	b. AMOUNT
UNSOLICITED PROPOSAL	72	\$ 9,000
SOLE SOURCE	73	15,633
SOLICITATION		

9. RECOMMENDATION

a. INSTRUMENT	b. TYPE OF ACTION
CONTRACT	NEW <input checked="" type="checkbox"/>
	RENEWAL <input checked="" type="checkbox"/>
GRANT	ACCELERATION
	EXPANSION
OTHER	EQUIPMENT LOAN
	OVER-RUN
	NO-FUNDS EXTENSION
	REDUCTION
	REOPENED
	CORRECTION

10. PERIOD TO BE COVERED BY THIS
PROCUREMENT ACTION (enter dates)

FROM 15 Feb 72 TO 14 Feb 73

7. CONTRACT DESCRIPTION OF WORK

7A. ☐ UNCLASSIFIED OCEANOGRAPHIC ENVIRONMENTAL DATA INVOLVED

To perform research aimed at more precisely identifying and predicting the effects of air ions and electromagnetic energy upon the nervous system and on behavior.

I certify that the DD-254 has been reviewed for currency.

DONALD P. WOODWARD

11. NR 309-005 (formerly NR 144-246)	12. CONTRACT NUMBER N 00014-69-C-0186	13. TASK SUPERVISOR (Signature) DONALD P. WOODWARD
--------------------------------------	---------------------------------------	--

14. SOURCE OF FUNDS				15. FOR USE OF COMPTROLLER'S OFFICE							
a. CODE OR AGENCY	b. SUB-PROJECT (TASK AREA) END ITEM AND TASK NR NO.	c. FY	d. AMOUNT	APPROPRIATION	OBJ. CLASS	UIC	SA NO.	AUTH. ACCT. NO.	T	PROG. ELE. PROJ. ID.	COST CODE
441	RS 041-01-03, 1-12 NR 309-005 4101-030	72	\$ 24,633	17X1319.14	000	00014	0	000014	2B		

e. TRANSFER OF FUNDS FROM (Code)	f. AMOUNT APPROVED	16. COMMITMENT (initials and date)
		TRANSMITTAL NO. _____
		ONR COMPTROLLER

17. ACR APPROVALS (Typed names and signatures)	
PROGRAM DIRECTOR LEONARD M. LIBBER DIRECTOR OF RESEARCH E. H. WEINBERG	DIVISION DIRECTOR J. P. ROLLARD ASSISTANT CHIEF FOR RESEARCH R. V. HAYES, CAPT, USN

22 JUL 1971

6. COMPTROLLER

JUL 26 1971

RESEARCH AND TECHNOLOGY WORK UNIT SUMMARY				1. AGENCY ACCESSION*		DATE OF SUMMARY*		REPORT CONTROL SYMBOL		
2 Oct 70 D. Change U U				NA HL		14 Jul 71				
3. DATE PREV SUMRY		4. KIND OF SUMMARY		5. SUMMARY SCTY*		6. WORK SECURITY*		7. REGRADING*		
2 Oct 70		D. Change		U		U		NA HL		
8. DISB'N INSTR'N		9. LEVEL OF SUM		10. NO./CODES*		11. PROGRAM ELEMENT		12. PROJECT NUMBER		
X YES <input type="checkbox"/> NO <input type="checkbox"/>		A. WORK UNIT		13. PRIMARY		14. CONTRIBUTING		15. CONTRIBUTING		
				61102H		NR 041-01		RR 041-01-03		
								NR 309-005		
11. TITLE (Precede with Security Classification Code)* (U) PERSONNEL TECHNOLOGY: The Effects of Ionized Air and Radio Energy upon the Performance of Naval Personnel										
12. SCIENTIFIC AND TECHNOLOGICAL AREAS* 013600 Psychology: 002400 Bioengineering: 016200 Stress physiology										
13. START DATE			14. ESTIMATED COMPLETION DATE			15. FUNDING AGENCY			16. PERFORMANCE METHOD	
Feb 69			CONT			NS			B. Contract	
17. CONTRACT/GRANT					18. RESOURCES ESTIMATE		19. PROFESSIONAL MAN YRS		20. FUNDS (in thousands)	
a. DATES/EFFECTIVE:					PRECEDING		1.0		43.2	
b. NUMBER: NO0014-69-C-0182					FISCAL YEAR		71			
c. TYPE:					CURRENT		72		.58	
d. AMOUNT:									29.0	
e. KIND OF AWARD: EXT										
19. RESPONSIBLE DOD ORGANIZATION					20. PERFORMING ORGANIZATION					
NAME: OFFICE OF NAVAL RESEARCH ADDRESS: DEPARTMENT OF THE NAVY ARLINGTON, VIRGINIA 22217					NAME: Randomline, Inc. ADDRESS: Old York & Moreland Roads Willow Grove, Pa. 19090					
RESPONSIBLE INDIVIDUAL					PRINCIPAL INVESTIGATOR (Furnish SSAN if U.S. Academic Institution)					
NAME: LINDER, L. H., Dr. 141					NAME: Frey, A. H.					
TELEPHONE: AREA Code -202- 692-4055					TELEPHONE: (215) 699-6228					
21. GENERAL USE					SOCIAL SECURITY ACCOUNT NUMBER:					
					ASSOCIATE INVESTIGATORS					
					NAME:					
					NAME:					
22. KEYWORDS (Precede EACH with Security Classification Code) (U) PERSONNEL TECHNOLOGY: (U) Air ions; (U) Bio-electric; (U) Electromagnetic energy; (U) Nervous system; (U) Electrophysiological; sensors										
23. (U) Within the Navy, there are many relatively closed spaces in which personnel are exposed to varying levels of electromagnetic radiation and/or ionized air which could affect individual performance. This work unit is concerned with the effects of exposure to radio frequency energy and ionized air on neural activity and behavior.										
24. (U) Work planned for the coming year includes (1) experimentation on olfactory sensitivity and the influence of various conductivity parameters on odor perception, (2) experimentation to attempt to determine if low-power radio frequency energy has rewarding motivational properties, aversive motivational properties, or is essentially neutral with regard to motivating an organism.										
25. (U) Recently completed olfactory experimentation, using electro-olfactogram techniques, compared a new odorant exposure technique involving special air flow conditions and control of the electrostatic environment, with the classic procedure using a high velocity puff of odorized air without electrostatic controls. The typical negative voltage response was obtained with the classic high velocity puff procedure. A slowly developing negative voltage response was obtained with tissue exposure to low velocity but not laminar flowing odorized air. In contrast, a biphasic wave with an initial positive component lasting until the offset of odorized air was obtained when low velocity, laminar flowing air was used and the electrostatic environment was controlled. These results may help to bring together previous disparate experimental findings. A review paper on the influence of low-power modulated RF energy on biological function was published. Considerable reaction to it is expected.										
Frey, A., "Biological Function as Influenced by Low-Power Modulated RF Energy", Trans. on Microwave Theory and Techniques, Feb 1971.										

ONR PROCUREMENT REQUEST AND APPR'L
NAVSO 3900/3 (REV. 1-71)

1. SUBMISSION DATE
22 Nov 1971

2. CURRENT SECURITY REQUIREMENTS
DD-254 DATED 27 May 1970 NONE ☐

3. TASK TITLE (UNCLASSIFIED EAM TITLE REQUIRED)

EAM: Behavioral Biophysics

4. CONTRACTOR (NAME AND LOCATION OF WORK PERFORMANCE)

Randomline, Inc.
Old York & Moreland Roads
Willow Grove, Pennsylvania 19010

5. PRINCIPAL INVESTIGATOR
A. H. Frey

6. BASIS FOR CONTRACTOR SELECTION
(New procurement only)

UNSOLICITED PROPOSAL
SOLE SOURCE
SOLICITATION

8. EXPENDITURE RATE

a. FY b. AMOUNT

9. RECOMMENDATION

a. INSTRUMENT

b. TYPE OF ACTION

CONTRACT

X

NEW

RENEWAL

ACCELERATION

EXPANSION

EQUIPMENT LOAN

OVER-RUN

NO-FUNDS EXTENSION

REDUCTION

REOPENED

CORRECTION

10. PERIOD TO BE COVERED BY THIS
PROCUREMENT ACTION (enter dates)

FROM 15 Feb 72 TO 14 Feb 73

7. CONTRACT DESCRIPTION OF WORK

7A. ☐ UNCLASSIFIED OCEANOGRAPHIC ENVIRONMENTAL DATA INVOLVED

To continue definition, development, optimization, and test of a fixed small scale model of weakly electric fish to assess its possible utility in detecting various metal and non metal objects in water.

Note to 600: If possible this acceleration should be negotiated at the same time as the renewal PR submitted 14 July 71 for same effective dates.

I certify the DD-254 has been reviewed for currency. *DFW*

11. NR 309-005 (formerly NR)				12. CONTRACT NUMBER N00014-69-C-0150				13. TASK SUPERVISOR (Signature) Donald P. Woodward			
14. SOURCE OF FUNDS				15. FOR USE OF COMPTROLLER'S OFFICE							
a. CODE OR AGENCY	b. SUB-PROJECT (TASK AREA) END ITEM AND TASK NR NO.	c. FY	d. AMOUNT	APPROPRIATION	OBJ. CLASS	UIC	SA NO.	AUTH. ACCT. NO.	T	PROG. ELE. PROJ. ID.	COST CODE
441	HR041-01-03, 1-12 NR 309-005 4101-030	72	0	17X1319.14	000	00014	0	000014	2B		
NAV-SHIPS		72	660,217								
e. TRANSFER OF FUNDS FROM (Code)				f. AMOUNT APPROVED		16. COMMITMENT (initials and date)					
						TRANSMITTAL NO.					
				ONR COMPTROLLER							

17. ACR APPROVALS (Typed names and signatures)

PROGRAM DIRECTOR

LEONARD M. LIEBER

DIVISION DIRECTOR

J. P. POLLARD

DIRECTOR OF RESEARCH

E. H. WEINBERG

Signed

ASSISTANT CHIEF FOR RESEARCH

R. V. HAYES, CAPT, USN

RESEARCH AND TECHNOLOGY WC UNIT SUMMARY				1. AGENCY ACCESSION*		2. OF SUMMARY*		REPORT CONTROL SYMBOL	
3. DATE PREV SUMMARY 14 Jul 71		4. KIND OF SUMMARY D. Change		5. SUMMARY SCTY* U		6. WORK SECURITY* U		7. REGRADING* NA	
8. DISC'D INSTR'N NL		9. LEVEL OF SUM A. WORK UNIT		10. NO / CODES*		PROGRAM ELEMENT		PROJECT NUMBER	
11. PRIMARY NAVSHIP		12. CONTRIBUTING 611027		13. CONTRIBUTING		14. TASK AREA NUMBER RR041-01-03		15. WORK UNIT NUMBER NR 309-005	
11. TITLE (Precede with Security Classification Code)* (U) PERSONNEL TECHNOLOGY: The Effects of Ionized Air and Radio Energy upon the Performance of Naval Personnel									
12. SCIENTIFIC AND TECHNOLOGICAL AREAS* 013400 Psychology; 002400 Biocinecinaz; 016200 Stress Physiology									
13. START DATE Feb 69		14. ESTIMATED COMPLETION DATE Cont.		15. FUNDING AGENCY DM RM		16. PERFORMANCE METHOD B. Contract			
17. CONTRACT/GRANT		18. RESOURCES ESTIMATE		19. PROFESSIONAL MAN YRS		20. FUNDS (in thousands)			
a. DATES/EFFECTIVE:		b. NUMBER* 000014-69-C-0181		c. TYPE:		d. AMOUNT:			
e. KIND OF AWARD: SMP		f. FISCAL YEAR		g. PRECEDING		h. CURRENT			
19. RESPONSIBLE DOD ORGANIZATION		20. PERFORMING ORGANIZATION		21. ASSOCIATE INVESTIGATORS		22. NAME:			
NAME* OFFICE OF NAVAL RESEARCH ADDRESS* DEPARTMENT OF THE NAVY ARLINGTON, VIRGINIA 22217		NAME* Handelman, Inc. ADDRESS* Old York & Moreland Roads Willow Grove, Pa. 19090		PRINCIPAL INVESTIGATOR (Furnish SSAN if U.S. Academic Institution)		NAME* Frey, A. E. TELEPHONE: (215) 699-6228 SOCIAL SECURITY ACCOUNT NUMBER:			
RESPONSIBLE INDIVIDUAL		21. GENERAL USE		22. KEYWORDS (Precede EACH with Security Classification Code)		23. TECHNICAL OBJECTIVE		24. APPROACH	
NAME: LIBBER, L. M., Dr. 441 TELEPHONE: AREA Code -202- 692-4355				(U) PERSONNEL TECHNOLOGY: (U) Air ions; (U) Bio-electric (U) Electromagnetic energy; (U) Nervous system; (U) Electrophysiological; sensors		23. (U) The detection, identification and classification of objects underwater is a continuing Navy problem. During this acceleration, work will continue on development and testing of a small scale model of weakly electric fish as one possible solution to this problem.		24. (U) This effort will be concerned with further definition, development, and testing of a fixed small scale model of weakly electric fish, to determine the effectiveness of such a model in detection and classification of objects underwater. The work will be iterative in nature, alternating among data gathering with the small scale model, modification of a mathematical model, and further testing and data gathering on the fish itself.	
25. (U) Progress on the work under the basic contract has been previously reported (14 July 71). Work completed related to this effort consisted of a review of the literature, preliminary data gathering, and mathematical analysis of the object detecting behavior of weakly electric fish. Results strongly suggest that a model for detection and classification of objects in brackish and fresh water could be built using principles employed by weakly electric fish, and that the classification capability may be better than currently used devices.									
Frey, A. "Biological Function as Influenced by Low-Power Modulated RF Energy", Trans. on Microwave Theory and Techniques, Feb. 1971.									

* Available to contractors upon originator's approval

NOV 19 1971

RANDOMLINE, INC.
OLD YORK & MORELAND ROADS
WILLOW GROVE, PENNA. 19090
(215) OL 9-6228

Definition of the Electrosensing System

November, 1971

William F. Tracy
Project Director

W. S. Tracy
Secretary-Treasurer

In an earlier study, in which we carried out an analysis of the literature and mathematical analyses, we found evidence that a model for detection and classification of objects in water could be built using the principles employed by weakly electric fish. The analyses indicate that the model's classification capability is likely to be as good or better than the devices that are currently used in the open ocean. Further, the device would also be effective in brackish and fresh water such as in harbors and rivers.

Proposal: We propose here that an effort be undertaken to develop, optimize, and test a fixed small scale model of the weakly electric fish. In this way, data can be gathered which can be combined with our mathematical model to extend the mathematical model and yield the information necessary for the development of a full scale experimental model.

Method: We would gather data on a fixed small scale model in a tank. The initial model design will involve a plastic cylinder with sensors and field generator installed as indicated by our mathematical model. It would be fixed centrally in a tank of suitable size i.e. as determined by our mathematical analysis which yielded the specification of the tank required for the collection of valid data.

Once the model is constructed, objects of interest would be moved about within the valid data collection region and measurements made to study the response characteristics of the receptor system. These objects will include various plastics, metals, living tissue, multi-component objects with multiple interfaces, etc. The work would be carried out using fresh and brackish water. Particular attention will be devoted to factors such as water current flow.

The procedure would be to modify the sensors, sensor organization, the signal processing procedures, etc, in order to optimize classification capability and range capability. As data is gathered, an iterative process will be used. In this, we will alternate between data collection and mathematical model modification in order to achieve the optimal sensor system design.

It is expected that in the course of this effort, behavioral tests will be carried out with weakly electric fish in order to obtain guidance at difficult decision points involving design parameters.

Expected Results: The product of the proposed effort shall be

- 1) a design for a sensor system for use in a full scale experimental model. The desire is to obtain the optimal sensor system design that can be used in a full scale experimental model to gather definitive information on objects of interest in a real environment,

- 2) A definition of the complexity of the signal processing apparatus that will be required in a full scale experimental model.

RANDOMLINE, INC.
 OLD YORK & MORELAND ROADS
 WILLOW GROVE, PENNA. 19090
 (215) OL 0-6228

	Budget	21,048
Professional (senior)	12 HM @ 1754/mo	10,440
Technician	15 HM @ 696/mo	5,354
Employee benefit	@ 17%	450
Travel		7,756
Material (computer time, model fabrication, tank, op amps, misc parts)	@ 24%	10,812
Indirect	@ 7.8%	4,357
Fee		\$60,217
Total		

The expected completion date is 1 November 1972 assuming the contract
 begins by 1 February, 1972.

A. R. Zandle

144-246058ed

RANDOMLINE, INC.

Old York & Moreland Roads
Willow Grove, Penna. 19090

(215) OL 9-6228

Request for renewal of contract N00014-69-C-0181

Behavioral Biophysics

May, 1971

27 MAY 1971

Allen H. Frey
Project Director

A R Furdell
Secretary - Treasurer

In previous years, our experimentation has been primarily concerned with the behavioral and physiological effect of radar wavelength rf energy; the effect of variation in electrical conductivity of the air on emotion and stress, variations such as that induced in closed environments by electronic equipment; and in the effect of variations in normally occurring electrostatic fields on olfactory sensor function.

This past year our emphasis has been on extending our work with the effect of rf energy on the heart, carrying out an analytical review in which we developed the theoretical bases for the effect of low power rf energy, extending the theoretical work on olfactory sensor mechanisms, and carrying out a special analytical review of the nature of a recently found sensory system in the fish as it bears on the mine countermeasures problem.

The results of the heart experimentation were reported at the recent NATO advisory panel meeting. Additional heart results were presented at two other Symposiums.

An evaluation of the controls needed and pitfalls in interpretation of rf data was requested and was presented at the recent Armed Services Epidemiological Board meeting.

Additional theoretical work on controls and the interpretation of experiments will be presented this month at a Symposium at the Navy Post Graduate School at Monterey.

On the basis of these data and the development of a general view of neural function in which the CNS is regarded as a solid-state system, certain lines of experimentation are indicated for this coming year.

One line shall be an extension of our work with olfactory sensitivity and the influence of various conductivity parameters on the perception of odor. The background for this experimentation is provided in the attached reprint entitled "Electrical charge distribution and olfactory methodology

and theory". We intend to initially work with an odor panel as the sensor and manipulate the charge characteristics within an odor exposure room which we are presently designing to obtain precise measurements and to control and manipulate charge and field characteristics.

A second line of investigation will be concerned with the motivational properties of rf energy. Although we have shown behavioral cuing properties of rf energy there remains the question whether the energy at low levels has motivational properties. The background that leads to this question can be found in the attached reprint entitled "Biological function as influenced by low power modulated rf energy". We intend to carry out a behavioral study with white rats in which we shall evaluate this possibility. We have worked out what appears to be an easily interpretable straight forward test of the motivational properties of rf energy. Taking into consideration the special controls and apparatus needed in this type of experimentation, we are working out a modification of the standard type shuttle box. We plan to, in essence, have one side of the shuttle box shielded from the energy and the other side exposed to the energy. We shall then monitor the amount of time spent by the animal in each side of the shuttle box. In this way, using a factorial design, we anticipate being able to determine whether the low power rf energy has rewarding motivational properties, aversive motivational properties, or is neutral in terms of motivational properties.

We have also started work, as a third line, to develop a ballistocardiogram technique for detecting heart activity in the rf field. In this way, we can avoid applying wires to the subject. Because of the characteristics of the field, we cannot use conventional ballistocardiogram equipment for monitoring heart activity. We have found it necessary to develop

equipment for monitoring heart activity in the field. The ballistocardiogram design work is moving along satisfactorily and if it is successfully completed we shall carry out a study of heart activity this year.

We have also begun work this year to extend our earlier studies on the rf hearing phenomenon. An rf laboratory energy source that meets the requirements for such studies has finally become available commercially. We have obtained one of these sources and are working out techniques to tie it to our computer so that we can manipulate over a wide range the rf parameters. This coming year we plan to experimentally establish and extend the work described in the attached reprint entitled "Human auditory system response to modulated electromagnetic energy" and experimentally establish various threshold measures, relate various energy parameters to the perceived sounds, and begin working towards identification of the mechanisms involved in the perception of these "sounds".

Budget

Professional personnel (senior)	5.5 MM	@ 1660/mo	9,130
Technician	10.5 MM	@ 522/mo	5,480
Employee benefit		@ 17%	2,485
Material			945
Travel			338
Indirect		@ 24%	4,423
Fee		@ 7.8%	1,782
Total			\$24,633

A R. L. L. L. L.

ONR WORKSHEET FOR
INDIVIDUAL PROCUREMENT ACTION REPORT (DD-350)
NAVSO 4200/6 (REV. 11-68)

CONTRACTOR (Name and Address)

Randomline, Inc.
Old York and Moreland Roads
Willow Grove, Pennsylvania 19090
Attention: A. R. Zandel

ADMIN. OFFICE

DCASR Philadelphia, Pa.

S3910A

DISBURSING OFFICE (Name and Account No.)

DCASR Philadelphia, Pa.

S3910A

CONTRACT IDENTIFICATION

FIRM FIXED-PRICE	C	C(P)	F	CONTRACT NO.	AMENDMENT NO.
				N00014-69-C-0181	P00004
COST TYPE	A	B	XXXXXX	DOCUMENT TO BE DATED	NR NO.
				70NOV15	144-246
OTHER (Specify)					
DESCRIPTION OF CONTRACTUAL SERVICES					

A5Q4 River/Shallow Water Warfare

Note #1: Attach Individual Procurement Action Report form DD-350 as part of this Worksheet and fill in data as applicable.

Note #2: Review check-list below for completion of additional contract preparatory actions.

CHECK LIST OF PREPARATORY ACTIONS

	REQUIRED		STATUS
	YES	NO	
STATEMENT FROM CONTRACTOR RE USE OF COMPANY OR PERSON TO SOLICIT	X		<input checked="" type="checkbox"/> RECEIVED <input type="checkbox"/> NOT RECEIVED
CONTRACTING OFFICER'S STATEMENT		X	
NEGOTIATION CLEARANCE (NAVEXOS.2759)		X	NO.
AUTHORITY TO CONTRACT - "BUSINESS" CLEARANCE (NAVEXOS.2760)		X	NO.
METHOD OF CONTRACTING (D & F)	X	X	NO. S
NEGOTIATION D & F	X		NO. 42626 S
DD-254 (If required, identify: Basic; Amend.; Annex; Other)	X		DD 254 dtd 27 May 70

REMARKS

Forward copies to NAVSHIPS 0335
(1 conformed copy) and 03542, 10243 and SA 12262

ONR TECHNICAL CODE/BUREAU 454

ACTION DATES

PR OR REQUISITION DATED	(Date)
	2 Oct 70
PR/REQUISITION RECEIVED IN CODE 600	
	16 Oct 70
PROCUREMENT PACKAGE RELEASED FROM NEGOTIATION	
	4 Dec 70
MAILED TO CONTRACTOR	
	DEC 30 1970
FINAL EXECUTION	
	1-7-71
BEGINNING DATE OF CONTRACT ACTION	
	15 Nov 70

SIGNATURE

JOSEPH RICHMAN

DATE

DEC 09 1970

RESEARCH AND TECHNOLOGY W. UNIT SUMMARY				1. AGENCY ACCESSION*	2. DATE OF SUMMARY*	REPORT CONTROL SYMBOL	
3. DATE PREV SUMMARY	4. KIND OF SUMMARY	5. SUMMARY SCTY*	6. WORK SECURITY*	7. REGRADING*	8A. DISB'N INSTR'N	8B. SPECIFIC DATA - CONTRACTOR ACCESS	9. LEVEL OF SUM
27 May 70	D. CHANGE	U	U	NA	NL	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	A. WORK UNIT
10. NO./CODES*		PROGRAM ELEMENT		PROJECT NUMBER		TASK AREA NUMBER	
a. PRIMARY		61501N				NR 144-246	
b. CONTRIBUTING		NAVSHIPS REQ # 03542-03542-1-0129					
c. CONTRIBUTING		61102N		RR 006-02		RR 006-02-02	
11. TITLE (Precede with Security Classification Code)* (U) PERSONNEL TECHNOLOGY: The Effects of Ionized Air and Radio Energy upon the Performance of Naval Personnel							
12. SCIENTIFIC AND TECHNOLOGICAL AREAS*							
013400 Psychology; 002400 Bioengineering; 016200 Stress Physiology;							
13. START DATE		14. ESTIMATED COMPLETION DATE		15. FUNDING AGENCY		16. PERFORMANCE METHOD	
Feb 69		CONT		DN DN		B. CONTRACT	
17. CONTRACT/GRANT				18. RESOURCES ESTIMATE		a. PROFESSIONAL MAN YRS	
a. DATES/EFFECTIVE:				PRECEDING			
b. NUMBER: R00014-69-C-0181				FISCAL YEAR		b. FUNDS (in thousands)	
c. TYPE:				70		.42	
d. AMOUNT:				71		1.0	
e. KIND OF AWARD: SUP						43.2	
19. RESPONSIBLE DOD ORGANIZATION				20. PERFORMING ORGANIZATION			
NAME: OFFICE OF NAVAL RESEARCH ADDRESS: DEPARTMENT OF THE NAVY ARLINGTON, VIRGINIA 22217				NAME: Randonline, Inc. ADDRESS: Old York & Moreland Roads Willow Grove, Pa. 19090			
RESPONSIBLE INDIVIDUAL				PRINCIPAL INVESTIGATOR (Furnish SSAN if U.S. Academic Institution)			
NAME: Tollamst, G. G., Dr. Code 454				NAME: Frey, A. H.			
TELEPHONE: AREA Code -202-692-4505				TELEPHONE: (215) 699-6228			
21. GENERAL USE				SOCIAL SECURITY ACCOUNT NUMBER:			
				ASSOCIATE INVESTIGATORS			
				NAME:			
				NAME:			
22. KEYWORDS (Precede EACH with Security Classification Code) (U) PERSONNEL TECHNOLOGY: (U) Air ions; (U) electromagnetic energy; (U) Nervous system; (U) electrophysiological; (U) Bio-electric sensors							
23. TECHNICAL OBJECTIVE,* 24. APPROACH, 25. PROGRESS (Furnish individual paragraphs identified by number. Precede text of each with Security Classification Code.)							
23. (U) The detection, identification, and classification of objects underwater is a continuing Navy problem. During this acceleration, this work unit will review the possible utility of bio electric sensors used by certain organisms as a possible solution of this problem.							
24. (U) Work during this acceleration period will be concerned with an analytical review of unique sensory systems used by certain animals in detecting and identifying certain objects in their environment. The intent of the review is to provide information on the nature of the sensory mechanism, its possible application to underwater object detection problems, the possibility of modeling the system, identifying limitations and possible improvements.							
25. (U) Progress on the work going on under the basic contract has been previously reported (27 May 1970). Briefly, recent experimentation demonstrated the effect of passing air through low frequency grids on apparent odor concentration. Test subjects report a doubling of odor level 20-30 min. after the low frequency energy is turned off. Other work showed an effect of radar wavelength energy depending on the phase of the heart cycle.							
Frey, A. "Effects of Microwaves and Radio Frequency Energy on the Central Nervous System", TR 1-70, Sep 1969							

MILITARY RELEVANCE STATEMENT
NAYSO 3900/7 (Rev. 4-70)

OFFICE OF NAVAL RESEARCH

NR NUMBER NR-144-246	DATE OF PR 2 Oct 70	CONTRACT NUMBER N00014-69-C-0180	MODIFICATION NUMBER
CONTRACTOR (NAME ONLY) Randomline, Inc.			PROPOSED FUNDING \$

STATEMENT ON

DIRECT AND APPARENT RELATIONSHIP TO A SPECIFIC MILITARY FUNCTION OR OPERATION

PURSUANT TO PL 91-121, FY 70 AUTHORIZATION ACT

1. The work to be accomplished under this contract/grant relates to the detection identification and classification of underwater objects.

MP
402
10/13/70
Nav Ships Funds

2. This contract/grant is certified to meet the requirements of Section 203 as indicated in paragraph 1. above.

G. B. Tolhurst
GILBERT C. TOLHURST
SCIENTIFIC OFFICER

4. APPROPRIATION AND SUBHEAD	OBJ. CL.	SUB. CONT. NO.	SUBAL. DT.	AUTHORIZATION ACCT'G ACTIVITY	TRANS. TYPE	PROPERTY ACCT'G ACTIVITY	COUNTRY	COST CODE	AMOUNT
17X1319.2415	025	74995	0	065872	2B	090000		000000000000	\$31,000.00*
8 2705 Truck 15645 Element 64504N (Reqn 03542-03542-1-0129)									

TRANSPORTATION VIA MATS OR MSTs CHARGEABLE TO						17. SPECIAL HANDLING					
18. RECAPITULATION OF SHIPMENT	ISSUED BY	TOTAL CONTAINER	TYPE CONTAINER	DESCRIPTION	TOTAL WEIGHT	TOTAL CUBE	19. RECEIPT	CONTAINERS RECEIVED EXCEPT AS NOTED	DATE	BY	SHEET TOTAL
	CHECKED BY							QUANTITIES RECEIVED EXCEPT AS NOTED	DATE	BY	GRAND TOTAL
	PACKED BY								DATE	BY	21. RECEIVER'S TOUCHER NO.
								POSTED			
				TOTAL							

RESEARCH AND TECHNOLOGY WORK UNIT SUMMARY				1. AGENCY ACCESSION*		2. DATE OF SUMMARY*		REPORT CONTROL SYMBOL	
3. DATE PREV SUMMARY 27 May 70	4. KIND OF SUMMARY D. CHANGE	5. SUMMARY SCTY ¹ U	6. WORK SECURITY ² U	7. REGRADING ³ NA	8A. DISSEM INSTR ⁴ RL	8B. SPECIFIC DATA - CONTRACTOR ACCESS <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		9. LEVEL OF SUMMARY A. WORK UNIT	
10. NO./CODES: ⁵		PROGRAM ELEMENT		PROJECT NUMBER		TASK AREA NUMBER		WORK UNIT NUMBER	
a. PRIMARY		61502N		NR 03542-03542-1-0123		NR 114-216			
b. CONTRIBUTING		NAVSHIPS HQ							
c. CONTRIBUTING		61102N		NR 006-02		NR 006-02-02			
11. TITLE (Precede with Security Classification Code)* (U) PERSONNEL TECHNOLOGY: The Effects of Ionized Air and Radio Energy upon the Performance of Naval Personnel									
12. SCIENTIFIC AND TECHNOLOGICAL AREAS ⁶ 013400 Psychology; 002400 Bioengineering; 016200 Stress Physiology;									
13. START DATE Feb 69			14. ESTIMATED COMPLETION DATE CONT			15. FUNDING AGENCY DE DE		16. PERFORMANCE METHOD B. CONTRACT	
17. CONTRACT/GRANT				18. RESOURCES ESTIMATE		A. PROFESSIONAL MAN YRS		B. FUNDS (in thousands)	
a. DATES/EFFECTIVE:				PRECEDING					
b. NUMBER: ⁷ NO0014-69-C-0181				FISCAL YEAR					
c. TYPE:				CURRENT					
d. AMOUNT:									
e. KIND OF AWARD: SOP									
19. RESPONSIBLE DOD ORGANIZATION				20. PERFORMING ORGANIZATION					
NAME: ⁸ OFFICE OF NAVAL RESEARCH DEPARTMENT OF THE NAVY ARLINGTON, VIRGINIA 22217				NAME: ⁹ Randall, Inc.					
ADDRESS: ¹⁰				ADDRESS: ¹¹ Old York & Moreland Roads Willow Grove, Pa. 19090					
RESPONSIBLE INDIVIDUAL				PRINCIPAL INVESTIGATOR (Furnish SSAN if U.S. Academic Institution)					
NAME: ¹² Tollhurst, G. C., Jr. Code 154				NAME: ¹³ Frey, A. H.					
TELEPHONE: ¹⁴ AREA Code -202-692-1505				TELEPHONE: ¹⁵ (215) 699-6228					
21. GENERAL USE				SOCIAL SECURITY ACCOUNT NUMBER:					
				ASSOCIATE INVESTIGATORS					
				NAME:					
				NAME:					
22. KEYWORDS (Precede EACH with Security Classification Code) (U) PERSONNEL TECHNOLOGY; (U) Air Ions; (U) electromagnetic energy; (U) Nervous system; (U) electrophysiological; (U) Bio-electric									
23. TECHNICAL OBJECTIVE, 24. APPROACH, 25. PROGRESS (Furnish individual paragraphs identified by number. Precede text of each with Security Classification Code.)									
<p>23. (U) The detection, identification, and classification of objects underwater is a continuing Navy problem. During this acceleration, this work unit will review the possible utility of bio electric sensors used by certain organisms as a possible solution of this problem.</p> <p>24. (U) Work during this acceleration period will be concerned with an analytical review of unique sensory systems used by certain animals in detecting and identifying certain objects in their environment. The intent of the review is to provide information on the nature of the sensory mechanism, its possible application to underwater object detection problems, the possibility of modeling the system, identifying limitations and possible improvements.</p> <p>25. (U) Progress on the work going on under the basic contract has been previously reported (27 May 1970). Briefly, recent experimentation demonstrated the effect of passing air through low frequency grids on apparent odor concentration. Test subjects report a doubling of odor level 20-30 min. after the low frequency energy is turned off. Other work showed an effect of radar wavelength energy depending on the phase of the heart cycle.</p> <p>Frey, A. "Effects of Microwaves and Radio Frequency Energy on the Central Nervous System", TR 1-70, Sep 1969</p>									

RANDOMLINE, INC.

Old York & Moreland Roads

Willow Grove, Penna. 19090

(215) OL 9-6228

September 9, 1970

7
Dr. Donald Woodward (454)
Physiological Psychology Program
Office of Naval Research
800 N. Quincy St.
Arlington, Va. 22217

Dear Don:

Enclosed is the official proposal on the Electrical Sensing System that I have discussed with Mr. Welsh (Nav Ships 03542) and that he has discussed with Gib. I've also sent a copy to Mr. Welsh. As I understand it, it is now ready to go through your system.

Mr. Welsh and I plan to meet for discussions every few months. The contracts people, however, probably would prefer seeing a contract written with quarterly letter reports which is okay with me.

I'm leaving the country tomorrow and will return October 11. I'll contact you when I return in case any questions come up.

Regards,

Allan

Allan H. Frey

AHF/bw

enclosures:

RANDOMLINE, INC.

Old York & Merland Roads
Willow Grove, Penna. 19090

(215) OL 9-6228

A Proposed Evaluation of an Application of an Electrical Sensing System

In recent years, a previously unknown sensory system has been identified and is receiving increasing interest among sensory psychologists. There is a class of vertebrate whose behavior is in large part guided by an electrical field generating and perturbation sensing system. On the basis of a preliminary review, we suggest that the principle of the sensory system may have application to a serious problem for the Navy - the detection of swimmers and mines. We suggest that an in depth analytical review of the data be undertaken including technical discussions with various investigators as necessary on a fellow scientist basis. Our approach is described below.

Problem: Is there a technique that can be used to classify an object in the water or on the bottom i.e. is it a man, flotsam, mine (metal or plastic) or a rock?

Ideal solution: The development of a technique and eventually equipment to do such classification at a reasonable cost in terms of size, weight, power requirements, etc.

Method: Carry out an analytical review in an attempt to determine how certain vertebrates with a unique sensory system use the system in obtaining food and in avoiding danger. Certain vertebrates, such as gymnotids, generate an electrical field and sense the electrical perturbations in the field caused by objects in the environment. This is done by the use of a specialized sensory system.

requisite. The sensory system is quite sophisticated e.g. it has many different characteristics, perceiving characteristics, etc.

Functional Review: The analytical review will be directed at obtaining information such as:

What is the nature of the mechanism?

Does such a system have a useful application to the problem specified?

Can the system be modified?

Do we have available all the necessary data needed to model it?

If not, what data is needed?

What are the probable limitations on its use?

Can we improve on the system for our particular application?

Primary Bibliography

- Grunewald, J. Electroreceptive systems in electric fish. in MS.
- Krapova, N. I., Krayukhin, S.V. The lateral line of fish as a device for perception of the electrical field. *Elektronika*, ed. M. Gouze-Rapoport & V. Yakobin. 1966, No. 125. 1966.
- Clark, Warren L. and Grunath, Louis. A measure of the threshold sensitivity of Gymnotus carapo to electric fields. in MS.
- Inger, R. S. and Szabo, Thomas. Activity of Central neurons involved in electroreception in some weakly electric fish (Gymnotidae). *J. Neurophysiology*, V. 28, No. 5 September 1965.
- Grunath, Louis P., Sachs, Howard G. and Erskine, Fred T. III. Electrical Sensitivity of a weakly electric fish. *Life Sciences* Vol. 6, pp. 2373-2387. 1967.
- Nagatsuma, S. and Morita H. Coding mechanisms of electroreceptor fibers in some electric fish. *J. Neurophysiology*, 1966, 26, pp. 551-567.
- Lissmann, H. W. Electric location by fishes. *Scientific American*. March 1963, pp. 50-59.
- Lissmann, H. W. and Machin, K. Electric Receptors in a Non-electric fish (Gerrhonotus). *Nature*. V. 199, 88-89, July 6, 1963.
- Machin, K. E. Electric Receptors. *Symposium of the Society for Experimental Biology*. pp. 227-243.
- Kinkoff, Lawrence A., Clark, Warren L. and Sachs, Howard G. Interspike interval analysis of the discharge of a weakly electric Mormyrid fish. in MS.
- Murray, R. W. Electroreceptor mechanisms: the relation of impulse frequency to stimulus strength and responses to pulsed stimuli in the ampullae of lateral line of elasmobranchs. *J. Physiol*, 130. pp. 592-606.
- Suga, Nubuo. Electrosensitivity of Canal and free neuromast organs in a weakly electric fish. *J. Comp. Neur.* 131: 453-458. Dec. 1967.

1950

Project Director (A. H. Frazer)	Sal. @ 1660/mo	5950
Engineer (M. Schert)	Sal. @ 1120/mo	3960
Biologist (S. Smith)	Sal. @ 740/mo	2750
Clerical	Sal. @ 490/mo	1950
Employee benefit	@ 17%	3227
Travel (for technical discussions)		480
Indirect	@ 24%	5448
Fee	@ 7.8%	2194
Total		\$30,326

A. H. Frazer
Project Director

A. R. Zander
Secretary-Treasurer

ONR WORKSHEET FOR
INDIVIDUAL PROCUREMENT ACTION REPORT (DD-350)
MAYSO 4200/6 (REV. 11-68)

CONTRACTOR (Name and Address)

Randomline, Inc.
Old York and Moreland Roads
Willow Grove, Pennsylvania 19090
Attention: A. R. Zandel

ADMIN. OFFICE

DCASR Philadelphia, Pa.

S3910A

DISBURSING OFFICE (Name and Account No.)

DCASR Philadelphia, Pa.

S3910A

CONTRACT IDENTIFICATION

FIRM FIXED-PRICE

C

C(P)

F

CONTRACT NO.

AMENDMENT NO.

COST TYPE

A

B

N00014-69-C-0181

P003

OTHER (Specify)

DOCUMENT TO BE DATED

NR NO.

DESCRIPTION OF CONTRACTUAL SERVICES

Currently

144-246

A1M1

Behavioral - Social Sciences

Note #1: Attach Individual Procurement Action Report form DD-350 as part of this Worksheet and fill in data as applicable.

Note #2: Review check-list below for completion of additional contract preparatory actions.

CHECK LIST OF PREPARATORY ACTIONS

STATEMENT FROM CONTRACTOR RE USE OF COMPANY OR PERSON TO SOLICIT	REQUIRED		STATUS
	YES	NO	
CONTRACTING OFFICER'S STATEMENT	X		<input checked="" type="checkbox"/> RECEIVED <input type="checkbox"/> NOT RECEIVED
NEGOTIATION CLEARANCE (NAVEXOS-2759)		X	
AUTHORITY TO CONTRACT - "BUSINESS" CLEARANCE (NAVEXOS-2760)		X	NO.
METHOD OF CONTRACTING (D & F)		X	NO.
NEGOTIATION D & F		X	NO.
DD-254 (If required, identify: Basic; Amend.; Annex; Other)	X		NO. 41659
REMARKS	X		DD 254 dtd 27 May 70

ONR TECHNICAL CODE/BUREAU

454

ACTION DATES

PR OR REQUISITION DATED	(Date)
PR/REQUISITION RECEIVED IN CODE 600	27 May 70
PROCUREMENT PACKAGE RELEASED FROM NEGOTIATION	29 June 70
MAILED TO CONTRACTOR	15 July 70
FINAL EXECUTION	AUG 12 1970
BEGINNING DATE OF CONTRACT ACTION	8-20-70
SIGNATURE	Currently
DATE	

JOSEPH RICHMAN

ONR Security Officer advised Contractor has Secret Facility & Storage Clearance

9

ONR PROCUREMENT REQUEST AND APPROVAL

NAVSO 3900/3 (REV. 11-68)

1. SUBMISSION DATE
27 May 1970

2. CURRENT SECURITY REQUIREMENTS
DD-254 DATED 27 May 1970

3. TASK TITLE (UNCLASSIFIED EAM TITLE REQUIRED)

EAM: Behavioral Biophysics

4. CONTRACTOR (NAME AND LOCATION OF WORK PERFORMANCE)

Randomline, Inc.
Old York & Moreland Roads
Willow Grove, Pennsylvania 19010

5. PRINCIPAL INVESTIGATOR

A. H. Frey

6. BASIS FOR CONTRACTOR SELECTION
(New procurement only)

UNSOLICITED PROPOSAL
SOLE SOURCE
SOLICITATION

8. EXPENDITURE RATE

a. FY b. AMOUNT

71 \$6,979
72 14,293

9. RECOMMENDATION

a. INSTRUMENT	b. TYPE OF ACTION
CONTRACT	NEW
	RENEWAL
	ACCELERATION
	EXPANSION
	EQUIPMENT LOAN
	OVER-RUN
	NO-FUNDS EXTENSION
	REDUCTION
	REOPENED
	CORRECTION

10. PERIOD TO BE COVERED BY THIS PROCUREMENT ACTION (enter dates)

FROM 15 Feb 71 TO 14 Feb 72

7. CONTRACT DESCRIPTION OF WORK

To perform research aimed at discovering and predicting the effects of air ions and centimeter electromagnetic energy upon the nervous system and on behavior.

11. NR 144-246 (formerly NR) 12. CONTRACT NUMBER N 00014-69-C-0180 13. TASK SUPERVISOR (Signature) DONALD P. WOODWARD

14. SOURCE OF FUNDS

15. FOR USE OF COMPTROLLER'S OFFICE

a. CODE OR AGENCY	b. SUB-PROJECT (TASK AREA) END ITEM AND TASK NR NO.	c. FY	d. AMOUNT	e. APPROPRIATION	f. OBJ. CLASS	g. BUREAU CONTROL NO.	h. AUTH. ACCT. NO.	i. TRANS. TYPE	j. PAA	k. COST CODE
454	BR006-02-02,1-12 NR 144-246 (42)	71	\$21,272	17X1319.14/1	023	12.500	200014	2B	000 000	000 000 001 K54

JUN 29 '70 PM



c. TRANSFER OF FUNDS FROM (Code)

f. AMOUNT APPROVED

21,272

16. COMMITMENT

TRANSMITTAL NO. 144-246-2

(initials and date)

7-1-70 mh
ONR COMPTROLLER

17. DR APPROVALS (Typed names and signatures)

PROGRAM DIRECTOR

GILBERT C. TOLHURST

DEPUTY DIRECTOR OF RESEARCH (RESEARCH)

/s/ AUBREY W. PRYCE

A. W. PRYCE

DIVISION DIRECTOR

G. L. BRYAN

DIRECTOR OF RESEARCH

R. TRUMBULL /s/ AUBREY W. PRYCE

JUN 03 1970

3. PROCUREMENT SERVICES

17 JUN 1970

RESEARCH AND TECHNOLOGY WORK UNIT SUMMARY					1. AGENCY ACCESSION*		2. DATE L		3. PRIMARY*		REPORT CONTROL SYMBOL		
3. DATE PREV SUMRY		4. KIND OF SUMMARY		5. SUMMARY SCTY*		6. WORK SECURITY*		7. REGRADING*		8. DISB'N INSTR'N		9. LEVEL OF SUM	
2 Jan 70		D. CHANGE		U		U		NA		NL		A. WORK UNIT	
10. NO./CODES:*		PROGRAM ELEMENT		PROJECT NUMBER		TASK AREA NUMBER		11. SPECIFIC DATA- CONTRACTOR ACCESS		12. YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		13. A. WORK UNIT	
a. PRIMARY		61102N		RR 006-02		RR006-02-02		NR 144-246					
b. CONTRIBUTING													
c. CONTRIBUTING													
11. TITLE (Precede with Security Classification Code)*													
(U) PERSONNEL TECHNOLOGY: The Effects of Ionized Air and Radio Energy upon the Performance of Naval Personnel.													
12. SCIENTIFIC AND TECHNOLOGICAL AREAS*													
013400 Psychology; 002400 Bioengineering; 016200 Stress Physiology;													
13. START DATE				14. ESTIMATED COMPLETION DATE				15. FUNDING AGENCY				16. PERFORMANCE METHOD	
Feb 69				CONT				DN				B. Contract	
17. CONTRACT/GRANT				18. RESOURCES ESTIMATE				a. PROFESSIONAL MAN YRS				b. FUNDS (in thousands)	
a. DATES/EFFECTIVE:				EXPIRATION:				PRECEDING					
b. NUMBER:*				N00014-69-C-0181				FISCAL YEAR				70	
c. TYPE:				d. AMOUNT:				CURRENT				71	
e. KIND OF AWARD: KKT												.42	
19. RESPONSIBLE DOD ORGANIZATION												.38	
NAME:*				20. PERFORMING ORGANIZATION									
ADDRESS:*				Randomline, Inc.									
				Old York & Moreland Roads									
				Willow Grove, Pa. 19090									
RESPONSIBLE INDIVIDUAL				PRINCIPAL INVESTIGATOR (Furnish SSAN if U.S. Academic Institution)									
NAME: Tolhurst, G. C., Dr.				NAME: Frey, A. H.									
TELEPHONE: AREA Code 202 - 016-1056				TELEPHONE: (215) 019-6228									
21. GENERAL USE				SOCIAL SECURITY ACCOUNT NUMBER:									
				ASSOCIATE INVESTIGATORS									
				NAME:									
				NAME:									
22. KEYWORDS (Precede EACH with Security Classification Code)													
(U) PERSONNEL TECHNOLOGY: (U) Air ions; (U) electromagnetic energy; (U) Nervous system; (U) Electrophysiological;													
23. TECHNICAL OBJECTIVE, 24. APPROACH, 25. PROGRESS (Furnish individual paragraphs identified by number. Precede text of each with Security Classification Code.)													
23. (U) Within the Navy, there are many relatively closed spaces in which personnel are exposed to varying levels of electromagnetic radiation and/or ionized air which could effect individual performance. This work unit is concerned with the effects of exposure to radio frequency energy and ionized air on neural activity and behavior.													
24. (U) Work planned for the coming year includes (1) experiments on the mechanisms of the neural effect of radar wavelength energy, (2) additional experiments on the effects of exposure to radio frequency energy on heart function, and (3) further work on the relationship between air ionization and olfaction.													
25. (U) In one experiment just completed it was found that by passing air through low frequency grids, thereby modifying the electrical charge in the air, drastically reduced the apparent odor concentration. Test subjects report a doubling of odor level within 20-30 minutes after the low frequency energy is turned off. In further experimentation with radar wavelength energy using intact animals, a decrease in heart rate occurred when radar pulses impinged on the subject at the occurrence of the electrocardiogram R wave. Radar pulses impinging at the T wave had no effect. 1.2 Ghz pulsed modulated energy at average power densities of less than 1 mW/cm ² was used. This average power density is less than might be expected in some operational situations.													
Frey, A., "Effects of Microwaves and Radio Frequency Energy on the Central Nervous System," TR 1-70, Sep 1969													

available to contractors upon originator's approval.

D FORM 1 MAR 68 1498 ONR OVERPRINT (1-70)

PREVIOUS EDITION OF THIS FORM IS OBSOLETE.

MILITARY RELEVANCE STATEMENT
NAVS0 3900/7 (1-70)

OFFICE OF NAVAL RESEARCH

NR NUMBER	DATE OF PR	CONTRACT NUMBER	MODIFICATION NUMBER
NR- 144-246	27 May 1970	N00014-69-C-0181	
CONTRACTOR (NAME ONLY)			PROPOSED FUNDING
Randomline, Inc.			\$ 21,272

STATEMENT ON DIRECT AND APPARENT RELATIONSHIP TO A
SPECIFIC MILITARY FUNCTION OR OPERATION PURSUANT TO
PL 91-121, FY 1970 AUTHORIZATION ACT

1. The work to be accomplished under this contract/grant relates to the effect of radio frequency energy on body functioning and performance of Naval/Marine Corps personnel.

[Handwritten signature]
6/2
4/17/70

2. This contract/grant is certified to meet the requirements of Section 203 as indicated in paragraph 1. above.

Donald P. Woodward
DONALD P. WOODWARD

SCIENTIFIC OFFICER

NAVSO 3900/3 (REV. 11-68)

2. CURRENT SECURITY REQUIREMENTS
27 May 1970
DO-354 DATED

DO.254 DATED

9. RECOMMENDATION

a. INSTRUMENT	b. TYPE OF ACTION
1. <u>Warrant</u>	2. <u>Arrest</u>
3. <u>Return</u>	4. <u>Release</u>
5. <u>Complaint</u>	6. <u>Indictment</u>
7. <u>Subpoena</u>	8. <u>Search Warrant</u>
9. <u>Writ</u>	10. <u>Seizure</u>
11. <u>Order</u>	12. <u>Process</u>
13. <u>Notice</u>	14. <u>Summons</u>
15. <u>Verdict</u>	16. <u>Judgment</u>
17. <u>Appeal</u>	18. <u>Reversal</u>
19. <u>Remand</u>	20. <u>Execution</u>
21. <u>Stay</u>	22. <u>Postponement</u>
23. <u>Adjournment</u>	24. <u>Continuance</u>
25. <u>Settlement</u>	26. <u>Dismissal</u>
27. <u>Acquittal</u>	28. <u>Conviction</u>
29. <u>Parole</u>	30. <u>Probation</u>
31. <u>Restoration</u>	32. <u>Rehabilitation</u>
33. <u>Reentry</u>	34. <u>Deportation</u>
35. <u>Extradition</u>	36. <u>Recapture</u>
37. <u>Recall</u>	38. <u>Reinstatement</u>
39. <u>Repeal</u>	40. <u>Repeal</u>
41. <u>Repeal</u>	42. <u>Repeal</u>
43. <u>Repeal</u>	44. <u>Repeal</u>
45. <u>Repeal</u>	46. <u>Repeal</u>
47. <u>Repeal</u>	48. <u>Repeal</u>
49. <u>Repeal</u>	50. <u>Repeal</u>
51. <u>Repeal</u>	52. <u>Repeal</u>
53. <u>Repeal</u>	54. <u>Repeal</u>
55. <u>Repeal</u>	56. <u>Repeal</u>
57. <u>Repeal</u>	58. <u>Repeal</u>
59. <u>Repeal</u>	60. <u>Repeal</u>
61. <u>Repeal</u>	62. <u>Repeal</u>
63. <u>Repeal</u>	64. <u>Repeal</u>
65. <u>Repeal</u>	66. <u>Repeal</u>
67. <u>Repeal</u>	68. <u>Repeal</u>
69. <u>Repeal</u>	70. <u>Repeal</u>
71. <u>Repeal</u>	72. <u>Repeal</u>
73. <u>Repeal</u>	74. <u>Repeal</u>
75. <u>Repeal</u>	76. <u>Repeal</u>
77. <u>Repeal</u>	78. <u>Repeal</u>
79. <u>Repeal</u>	80. <u>Repeal</u>
81. <u>Repeal</u>	82. <u>Repeal</u>
83. <u>Repeal</u>	84. <u>Repeal</u>
85. <u>Repeal</u>	86. <u>Repeal</u>
87. <u>Repeal</u>	88. <u>Repeal</u>
89. <u>Repeal</u>	90. <u>Repeal</u>

CONTRACT	X	NEW	
		RENEWAL	X
GRANT		ACCELERATION	
		EXPANSION	
OTHER		EQUIPMENT LOAN	
		OVER-RUN	
		NO. FUNDS EXTENSION	
		REDUCTION	
		REOPENED	
		CORRECTION	

A. H. Frey

8. EXPENDITURE RATE

a. FY	b. AMOUNT
-------	-----------

77	26.97
----	-------

72	14.293
----	--------

SOLICITATION

10. PERIOD TO BE COVERED BY THIS PROCUREMENT ACTION (enter dates)

FROM 15 Feb 71 TO 14 Feb 72

7. CONTRACT DESCRIPTION OF WORK

To perform research aimed at discovering and predicting the effects of air ions and centimeter electromagnetic energy upon the nervous system and on behavior.

12. CONTRACT NUMBER
N 00014-69-C-0180

13. TASK SUPERVISOR (Signature)

DONALD F. WOODWARD

14. SOURCE OF FUNDS

15. FOR USE OF COMPTROLLER'S OFFICE

[illegible]

£. AMOUNT APPROVED

16. COMMITMENT

(initials and date)

TRANSMITTAL NO.

ONR CONTROLLER

PROGRAM DIRECTOR

17. DR APPROVALS (Typed names and signatures)

GILBERT C. VOLKERT

DIVISION DIRECTOR

G. L. BRYAN

JUN 03 1970

DEPUTY DIRECTOR OF RESEARCH (RESEARCH)

DIRECTOR OF RESEARCH

A. W. PRICE /51 AUBREY W. PRYCE

R. TRUMBULL /S/ AGENT W. FRYCE

RESEARCH AND TECHNOLOGY WORK UNIT SUMMARY				1. AGENCY ACCESSION*	2. DATE O. MARY*	REPORT CONTROL SYMBOL
3. DATE PREV SUM'RY 2 Jan 70	4. KIND OF SUMMARY D. CHANGE	5. SUMMARY SCTY* U	6. WORK SECURITY* U	7. REGRADING* NA	8. DISB'N INSTR'N NL	9. LEVEL OF SUM A. WORK UNIT
10. NO./CODES*	PROGRAM ELEMENT	PROJECT NUMBER	TASK AREA NUMBER	11. SPECIFIC DATA - CONTRACTOR ACCESS <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
a. PRIMARY	61102N	RR 006-02	RR006-02-02	NR 144-246		
b. CONTRIBUTING						
c. CONTRIBUTING						
11. TITLE (Precede with Security Classification Code)* (U) PERSONNEL TECHNOLOGY: The Effects of Ionized Air and Radio Energy upon the Performance of Naval Personnel.						
12. SCIENTIFIC AND TECHNOLOGICAL AREAS* 013400 Psychology; 002400 Bioengineering; 016200 Stress Physiology;						
13. START DATE Feb 69	14. ESTIMATED COMPLETION DATE CONT		15. FUNDING AGENCY DN		16. PERFORMANCE METHOD B. Contract	
17. CONTRACT/GRANT			18. RESOURCES ESTIMATE		19. PROFESSIONAL MAN YRS	
a. DATES/EFFECTIVE:			PRECEDING		L. FUNDS (in thousands)	
b. NUMBER: N00014-69-C-0181			FISCAL YEAR		70	
c. TYPE:			CURRENT		.42	
d. AMOUNT:			71		.38	
e. KIND OF AWARD: EXT					19.2	
19. RESPONSIBLE DOD ORGANIZATION			20. PERFORMING ORGANIZATION			
NAME: OFFICE OF NAVAL RESEARCH DEPARTMENT OF THE NAVY Washington, D. C. 20360			NAME: Randomline, Inc. Old York & Moreland Roads Willow Grove, Pa. 19090			
RESPONSIBLE INDIVIDUAL			PRINCIPAL INVESTIGATOR (Furnish SSAN if U.S. Academic Institution)			
NAME: Tolhurst, G. G., Dr.			NAME: Frey, A. H.			
TELEPHONE: AREA Code 202 - 0X6-1056			TELEPHONE: (215) 0X9-6228			
21. GENERAL USE			SOCIAL SECURITY ACCOUNT NUMBER:			
			ASSOCIATE INVESTIGATORS			
			NAME:			
			NAME:			
22. KEYWORDS (Precede EACH with Security Classification Code) (U) PERSONNEL TECHNOLOGY: (U) Air ions; (U) electromagnetic energy; (U) Nervous system; (U) Electrophysiological;						

23. (U) Within the Navy, there are many relatively closed spaces in which personnel are exposed to varying levels of electromagnetic radiation and/or ionized air which could effect individual performance. This work unit is concerned with the effects of exposure to radio frequency energy and ionized air on neural activity and behavior.

24. (U) Work planned for the coming year includes (1) experiments on the mechanisms of the neural effect of radar wavelength energy, (2) additional experiments on the effects of exposure to radio frequency energy on heart function, and (3) further work on the relationship between air ionization and olfaction.

25. (U) In one experiment just completed it was found that by passing air through low frequency grids, thereby modifying the electrical charge in the air, drastically reduced the apparent odor concentration. Test subjects report a doubling of odor level within 20-30 minutes after the low frequency energy is turned off. In further experimentation with radar wavelength energy using intact animals, a decrease in heart rate occurred when radar pulses impinged on the subject at the occurrence of the electrocardiogram R wave. Radar pulses impinging at the T wave had no effect. 1.2 Ghz pulsed modulated energy at average power densities of less than 1 $\mu W/cm^2$ was used. This average power density is less than might be expected in some operational situations..

Frey, A., "Effects of Microwaves and Radio Frequency Energy on the Central Nervous System," TR 1-70, Sep 1969

* Available to contractors upon originator's approval.

RANDOMLINE, INC.

Old York & Moreland Roads
Willow Grove, Penna. 19090

(215) OL 9-6228

MAY 16 1970

15 May 1970

Dr. Gilbert Tolhurst (code 454)
Office of Naval Research
Washington, D.C.

Dear Dr. Tolhurst:

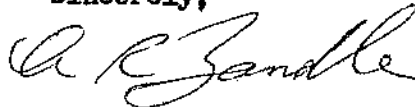
Enclosed is the renewal proposal for Contract number
N00014-69-C-0181.

All reporting requirements have been met to date. The next
semi-annual report is not due until 15 August.

I would appreciate it if you would return the self address
card that is enclosed.

*Returned
18 May 1970
Joan*

Sincerely,



A. R. Zandle

enc.
ARZ/jg

RANDOMLINE, INC.

Old York & Moreland Roads
Willow Grove, Penna. 19090

1215 OL 9-6228

Request for Renewal of Contract N00014-69-C-0181

The Effects of Ionized Air and Radio Energy upon the Performance
of Naval Personnel

Allan H. Frey

May 1970

Allan H. Frey
Principal Investigator

D. R. Zandell
Secretary-Treasurer

Budget

Professional personnel (senior)	5.5 MM	@ 1490/mo	8,195
Technician	10 MM	@ 436/mo	4,360
Employee benefit		@ 17%	2,134
Material (small equipment items)			705
Travel (Includes NATO meeting in Munich)			520
Indirect		@ 24%	3,819
Fee		@ 7.8%	1,539
Total			\$21,272

ONR WORKSHEET FOR
INDIVIDUAL PROCUREMENT ACTION REPORT (DD-350)
NAVS0 4200/6 (REV. 11-68)

CONTRACTOR (Name and Address)

Randomline, Inc.
York & Moreland Roads
Willow Grove, Pennsylvania 19090

Atten: Allan H. Frey

ADMIN. OFFICE

DCASR Phila. Pa. 39

DISBURSING OFFICE (Name and Account No.)

DCASR Phila. 5704

CONTRACT IDENTIFICATION

FIRM FIXED-PRICE	C	C(P)	F	CONTRACT NO.	AMENDMENT NO.
		XX		N00014-69-C-0181	MOD. P002
COST TYPE	A	B		DOCUMENT TO BE DATED	NR NO.
				currently	144-246
OTHER (Specify)					
DESCRIPTION OF CONTRACTUAL SERVICES					

Behavioral and social sciences ALMI

Note #1: Attach Individual Procurement Action Report form DD-350 as part of this Worksheet and fill in data as applicable.

Note #2: Review check-list below for completion of additional contract preparatory actions.

CHECK LIST OF PREPARATORY ACTIONS

	REQUIRED		STATUS
	YES	NO	
STATEMENT FROM CONTRACTOR RE USE OF COMPANY OR PERSON TO SOLICIT	X		<input checked="" type="checkbox"/> RECEIVED <input type="checkbox"/> NOT RECEIVED
CONTRACTING OFFICER'S STATEMENT		X	
NEGOTIATION CLEARANCE (NAVEXOS-2759)		X	NO.
AUTHORITY TO CONTRACT - "BUSINESS" CLEARANCE (NAVEXOS-2760)		X	NO.
METHOD OF CONTRACTING (D & F)		X	NO. \$
NEGOTIATION D & F		X	NO. \$
DD-254 (If required, identify: Basic; Amend.; Annex; Other)		X	

REMARKS

ONR TECHNICAL CODE/BUREAU

ACTION DATES

PR OR REQUISITION DATED	(Date)
PR/REQUISITION RECEIVED IN CONTRACT	
PROCUREMENT PACKAGE RELEASED FROM NEGOTIATION	
LOAN OF EQUIPMENT TO CONTRACTOR	
FINAL EXECUTION	FEB 05 1970
BEGINNING DATE OF CONTRACT ACTION	
SIGNATURE	DATE
L. A. Duncker	1/28/70

ONR PROCUREMENT REQUEST AND APPROVAL
 NAVSO 3900/3 (REV. 11-68)

1. SUBMISSION DATE
 22 Dec 69

2. CURRENT SECURITY REQUIREMENTS
 DD-254 DATED NONE ☒

3. TASK TITLE (UNCLASSIFIED EAM TITLE REQUIRED)

EAM: Behavioral Biophysics

4. CONTRACTOR (NAME AND LOCATION OF WORK PERFORMANCE)

Randomline, Inc.
Old York & Moreland Roads
Willow Grove, Pennsylvania 19010

5. PRINCIPAL INVESTIGATOR

A. H. Frey

6. BASIS FOR CONTRACTOR SELECTION
 (New procurement only)

☐ UNSOLICITED PROPOSAL
☐ SOLE SOURCE
☐ SOLICITATION

9. EXPENDITURE RATE

a. FY b. AMOUNT

9. RECOMMENDATION

a. INSTRUMENT	b. TYPE OF ACTION
CONTRACT	NEW <input checked="" type="checkbox"/>
	RENEWAL
GRANT	ACCELERATION
	EXPANSION <input checked="" type="checkbox"/>
OTHER	EQUIPMENT LOAN
	OVER-RUN
	NO-FUNDS EXTENSION
	REDUCTION
	REOPENED
	CORRECTION

10. PERIOD TO BE COVERED BY THIS PROCUREMENT ACTION (enter dates)

FROM 15 Feb 70 TO 14 Feb 71

7. CONTRACT DESCRIPTION OF WORK

To perform research aimed at discovering and predicting the effects of air ions and centimeter electromagnetic energy upon the nervous system and on behavior. The purpose of this PR is to permit the contractor to acquire three special equipment systems developed under a previous contract by the present principal investigator. This will permit the work to include studies of olfaction functioning and related neural-electric responses.

11. NR 144-246

(formerly NR)

12. CONTRACT NUMBER
 N 00014-69-G-0181

13. TASK SUPERVISOR (Signature)
DONALD P. WOODWARD

14. SOURCE OF FUNDS

a. CODE OR AGENCY b. SUB-PROJECT (TASK AREA) c. FY d. AMOUNT

454 RR006-02-02, 1-12
 NR 144-246 (42) 70 -0-

15. FOR USE OF COMPTROLLER'S OFFICE

APPROPRIATION	OBJ. CLASS	BUREAU CONTROL NO.	AUTH. ACCT. NO.	TRANS. TYPE	PAA	COST CODE
17X1319.14		501	14	2B		

6. TRANSFER OF FUNDS FROM (Code)

f. AMOUNT APPROVED

16. COMMITMENT

(initials and date)

OFFICE OF RESEARCH
PROCUREMENT SERVICES GROUP

TRANSMITTAL NO.

was 12/30/69
 ONR COMPTROLLER

17. DR APPROVALS (Typed names and signatures)

PROGRAM DIRECTOR

DIVISION DIRECTOR

GILBERT C. TOLHUUST

G. L. BRYAN

DEC 22 1969

DEPUTY DIRECTOR OF RESEARCH (RESEARCH)

DIRECTOR OF RESEARCH

A. W. PRYCE

R. TRUMBULL

ATTENTION: 11-100

RESEARCH AND TECHNOLOGY WORK UNIT SUMMARY						1. AGENCY ACCESSION*	2. DATE SUMMARY*	REPORT CONTROL SYMBOL
3. DATE PREV SUMMARY	4. KIND OF SUMMARY	5. SUMMARY SCTY*	6. WORK SECURITY*	7. REGRADING*	8. DISSEM INSTR*	22 Dec 69		9. LEVEL OF SUM A. WORK UNIT
6 Aug 69	D. CHANGE	U	U	NA	NL	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
10. NO./CODES*	PROGRAM ELEMENT	PROJECT NUMBER		TASK AREA NUMBER		WORK UNIT NUMBER		
a. PRIMARY	61102N	RR006-02		RR006-02-02		NR 144-246		
b. CONTRIBUTING								
c. CONTRIBUTING								
11. TITLE (Precede with Security Classification Code)*								
Performance of Naval Personnel.								
(U) PERSONNEL TECHNOLOGY: The Effects of Ionized Air and Radio Energy upon the								
12. SCIENTIFIC AND TECHNOLOGICAL AREAS*								
013400 Psychology; 002400 Bioengineering; 016200 Stress Physiology;								
13. START DATE		14. ESTIMATED COMPLETION DATE		15. FUNDING AGENCY		16. PERFORMANCE METHOD		
Feb 69		CONT		DNI		B. Contract		
17. CONTRACT/GRANT				18. RESOURCES ESTIMATE		a. PROFESSIONAL MAN YRS		b. FUNDS (in thousands)
a. DATES/EFFECTIVE:				PRECEDING				
b. NUMBER:*				FISCAL		69		.17
c. TYPE:				YEAR		CURRENT		8.6
d. KIND OF AWARD: SUP						70		.42
								20.8
19. RESPONSIBLE DOD ORGANIZATION				20. PERFORMING ORGANIZATION				
NAME:*				NAME:*				
ADDRESS:*				ADDRESS:*				
RESPONSIBLE INDIVIDUAL				PRINCIPAL INVESTIGATOR (Furnish SSAN if U.S. Academic Institution)				
NAME:*				NAME:*				
TELEPHONE: AREA Code 202 0X6-1056				TELEPHONE: 215 010-6228				
21. GENERAL USE				ASSOCIATE INVESTIGATORS				
				NAME:				
				NAME:				
22. KEYWORDS (Precede EACH with Security Classification Code)								
system; (U) Electrophysiological;								
(U) (U) Personnel Technology; (U) Air ions; (U) electromagnetic energy; (U) Nervous								
23. TECHNICAL OBJECTIVE, 24. APPROACH, 25. PROGRESS (Furnish individual paragraphs identified by number. Precede text of each with Security Classification Code.)								
23.(U) Within the Navy, there are many relatively closed spaces in which personnel are exposed to varying levels of electromagnetic radiation and/or ionized air which could effect individual performance. This work unit is concerned with the effects of exposure to radio frequency energy and ionized air on neural activity and behavior.								
24.(U) Work planned for the coming year includes (1) experiments on the mechanisms of the neural effect of radar wavelength energy, (2) additional experiments on the effects of exposure to radio frequency energy on heart function, and (3) further work on the relationship between air ionization and olfaction.								
25.(U) The electrostatic environment (subject, equipment, walls, etc.) influence the outcome of experiments in olfaction and aerosol deposition. The electrical response of olfactory tissue to odorants also was demonstrated to be a function, in part, of the method of delivery. By controlling the environment and stimulus delivery methods, rather different electrical responses have been recorded than previously found. If confirmed, these data will require new interpretation of the electrical response and probably of the mechanism of olfaction. An improved experimental system for examining the effects of radio frequency energy on heart function has been set up and debugged.								

RANDOMLINE, INC.

Old York & Moreland Roads
Willow Grove, Penna. 19090

(215) OL 9-6228

December 3, 1969

Physiological Psychology Program
Office of Naval Research (454)
Washington, D. C.

Dear Sir:

We wish to request that contract N00014-69-C-0181-P001 be amended to provide Randomline, Inc with the three special systems detailed on the attached.

As we stated in our proposal, we would expand the scope of the work into the area of electrical gradient phenomena at no additional cost if these unique systems were provided to us. In as much as the Scientific Officer can now provide the systems and wishes us to expand the scope of the work as soon as the contract can be amended, we are submitting this request.

Beside the experimentation with crustaceans and cardiac response to rf energy to which we are now contractually committed, we will expand the scope of the work to do in addition a study on electrical gradient manipulation and effect on the olfactory mucosa response if these systems are provided. We will evaluate the gradient effect on the EOG and higher neural interactions.

This additional work has considerable significance to the Navy and direct application to certain problems in submarines as well as other applications. It is expected that the data that would result would have bearing on long term habitability aboard ships and lead to means to increase personnel effectiveness.

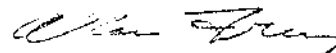
Randomline will not profit from the provision of these unique systems. These systems were specially developed and assembled for the Navy at considerable cost to the government and can only be used in this particular application. They can not be used for general purposes in system form. Neither can the individual components be used since they were radically modified in integrating them into the systems and they can not be returned to their original state.

In as much as HRB-Singer used the systems locally (the HRB project director who is now employed by us used them in the adjacent township), we can take on accountability for the systems without incurring shipping costs against ourselves or the government.

HRB Singer Contract N00014-66-C-0341

Thus, it would be in the best interest of the Government to expeditiously provide the unique systems, developed at considerable cost to the government, so that we can expand the scope of the work by adding the additional task for which the systems were designed. This is a task whose results will have wide application and be of considerable significance to the Navy.

Sincerely,



Allan H. Frey

AH:/bf

172

Systems

The system components listed are not in the condition as purchased seven years ago. Most of them lack parts that were discarded in the building of the systems, have extensive wiring and subcomponent changes for which there are no schematics, require auxillary equipment to operate due the changes made in them (said auxillary equipment and specifications are not included) or have mechanical changes that limit their function. There are no instruction books available on these special purpose systems to provide information on switch sequencing, allowable or necessary voltages, application, etc.

1 Data Analysis System consisting of the following listed items of Government Furnished Property incorporated into system:

USN-1-0341 Camera Polaroid, Model 104
USN-6-0341 Computer of Average Transients, Model 1000
USN-7-0341 Transducer, Stratham
USN-10-0341 Senior V6/10hyst
USN-13-0341 Audio Generator, RCA Model WA-44-C
USN-17-0341 Electrometer, Keithly 610A
USN-20-0341 Power Supply, P-8-12/24
USN-25-0341 Culmotive Recorder, Gerbrand
USN-33-0341 Scope Camera, Tektronix C-12
USN-36-0341 Stop Watch
USN-49-0341 Camera
USN-53-0341 Dynograph, Beckman Model 542, S/N 297
USN-54-0341 Biological Amplifier, Model DS2C
USN-55-0341 Recorder, Esterline-Angus, Model A620C
USN-56-0341 Dictating Machine, IBM, S/N 513583
USN-57-0341 Oscilloscope, Tektronix Model 565 with (1) 2A61 and (1) 2A63 Amplifier
USN-63-0341 Screen Room

USN-5-0341 Pipette Filler, KOPF
USN-11-0341 Laryngoscope
USN-12-0341 Blood Pressure Gauge
USN-22-0341 Motor, Part of Rad Box, Newark CMO
USN-30-0341 1/2" Electric Drill, W/Stand, Craftsman
USN-31-0341 Bovine Electrocuteary
USN-32-0341 Stereotoxic Instrument, KOPF 1204
USN-34-0341 Ministue Micromanipulator, Model MM-3
USN-35-0341 Balance Scale, Ohaus, Model 3502
USN-38-0341 Microscope, B & L Model 313353
USN-39-0341 Pump, Cole Parameter, 7064-5
USN-42-0341 Cat Skeleton
USN-43-0341 Vaporizer
USN-44-0341 Electrical Drill, Osteological
USN-45-0341 Ear Bars, (Part of USN-32-0341)
USN-46-0341 Regulator, 306-0071-800
USN-48-0341 Bright Spot Headlight
USN-58-0341 Transducer, Grass, FT-03B
USN-60-0341 Balance Scale, SEKO, Model 1137
USN-61-0341 Laboratory Oven, LaPine 317-85

2 Specimen Set-up System consisting of the following items of Government Furnished Property incorporated into system:

1. USN-3-0341 Pressure Cooker
2. USN-4-0341 Respiration Regulator

3 Behavioral Assay System consisting of the following items of Government Furnished Property incorporated into system:

USN-8-0341 Program Timer, TM-15K391
USN-9-0341 L Band Oscillator, Applied Microwave
USN-14-0341 Laboratory Simulator, AEL Model 104A

USN-15-0341 Photic Simulator,
AEL Model 127
USN-16-0341 Stimulus Isolator,
AEL Model 112
USN-18-0341 Power Oscillator,
Microdot 411A
USN-19-0341 Coax To Waveguide
Adaptor, Scientific Atlanta
USN-21-0341 Lo Power Terminator,
Microlab TA5MB
USN-23-0341 Coax Attenuator,
Empore AT50-10
USN-24-0341 Coax Attenuator,
Empire AT50-40
USN-26-0341 Lo-Pass Filter,
H/P Model 360A
USN-27-0341 Thermistor Mount,
H/P Model 477B
USN-29-0341 Bench Saw W/Motor
Craftsman
USN-37-0341 Programmer, Fohringer
1182M1
USN-41-0341 40 Drawer Parts Cabinet
USN-51-0341 Programmer,
Fohringer
USN-52-0341 Programmer,
Fohringer
USN-59-0341 Pellet Dispenser,
Fohringer
USN-62-0341 Horn Antenna,
Model 11-1-1

ONR WORKSHEET FOR
INDIVIDUAL PROCUREMENT ACTION REPORT (DD-350)
NAVSO 4200/6 (REV. 11-68)

CONTRACTOR (Name and Address) Randomline, Inc. York & Moreland Roads Willow Grove, Pennsylvania 19090 Attention: A. R. Zandle	ADMIN. OFFICE DCASR Philadelphia 39
	DISBURSING OFFICE (Name and Account No.) DCASR Philadelphia 5704

CONTRACT IDENTIFICATION				CONTRACT NO.	AMENDMENT NO.
FIRM FIXED-PRICE	C	C(P)	F	N00014-69-C-0181	P001
		XXXX			
COST TYPE	A	B		DOCUMENT TO BE DATED Currently	NR NO. 144-246
OTHER (Specify) DESCRIPTION OF CONTRACTUAL SERVICES					

A1M1 Behavioral - Social Sciences

Note #1: Attach Individual Procurement Action Report form DD-350 as part of this Worksheet and fill in data as applicable.

Note #2: Review check-list below for completion of additional contract preparatory actions.

CHECK LIST OF PREPARATORY ACTIONS	REQUIRED		STATUS	
	YES	NO	<input checked="" type="checkbox"/> RECEIVED	<input type="checkbox"/> NOT RECEIVED
STATEMENT FROM CONTRACTOR RE USE OF COMPANY OR PERSON TO SOLICIT	X	X		
CONTRACTING OFFICER'S STATEMENT		X		
NEGOTIATION CLEARANCE (NAVEXOS-2759)		X	NO.	
AUTHORITY TO CONTRACT - "BUSINESS" CLEARANCE (NAVEXOS-2760)		X	NO.	
METHOD OF CONTRACTING (D & F)		X	NO.	\$
NEGOTIATION D & F	X		NO. 39557	\$
DD-254 (If required, identify: Basic; Amend.; Annex; Other)		X		

REMARKS

23

ONR TECHNICAL CODE/BUREAU 454	
ACTION DATES	
PR OR REQUISITION DATED	(Date) 6 Aug 69
PR/REQUISITION RECEIVED IN CODE 600	19 Aug 69
PROCUREMENT PACKAGE RELEASED FROM NEGOTIATION	22 Aug 69
MAILED TO CONTRACTOR	SEP 18 1969
FINAL EXECUTION	10-6-69
BEGINNING DATE OF CONTRACT ACTION	Feb 70
SIGNATURE JOSEPH RICHMAN	DATE

ONR PROCUREMENT REQUEST AND APPROPRIATION
NAVSOP 3900-3 (REV. 11-68)

Rehm 8/20

1. SUBMISSION DATE
6 August 1969

2. CURRENT SECURITY REQUIREMENTS
DD-254 DATED ☒ NONE

3. TASK TITLE (UNCLASSIFIED EAM TITLE REQUIRED)

Behavioral Biophysics

4. CONTRACTOR (NAME AND LOCATION OF WORK PERFORMANCE)

**Randomline, Inc.
Old York & Moreland Roads
Willow Grove, Pennsylvania 19090**

5. PRINCIPAL INVESTIGATOR

A. H. Frey

6. BASIS FOR CONTRACTOR SELECTION
(New procurement only)

8. EXPENDITURE RATE

☐ UNSOLICITED PROPOSAL
☐ SOLE SOURCE
☐ SOLICITATION

a. FY	b. AMOUNT
70	8,720
71	12,210

9. RECOMMENDATION	
a. INSTRUMENT	b. TYPE OF ACTION
CONTRACT	NEW <input checked="" type="checkbox"/>
	RENEWAL <input checked="" type="checkbox"/>
GRANT	ACCELERATION
	EXPANSION
OTHER	EQUIPMENT LOAN
	OVER-RUN
	NO-FUNDS EXTENSION
	REDUCTION
	REOPENED
	CORRECTION

10. PERIOD TO BE COVERED BY THIS PROCUREMENT ACTION (enter dates)

FROM **15 Feb 70** TO **14 Feb 71**

7. CONTRACT DESCRIPTION OF WORK

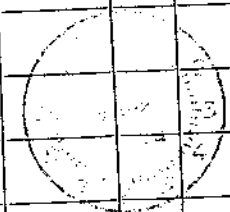
To perform research aimed at discovering and predicting the effects of air ions and centimeter electromagnetic energy upon the nervous system and on behavior.

39557

14-484

Pool

11. NR 144-246 (formerly NR)				12. CONTRACT NUMBER 00014-69-C-0181				13. TASK SUPERVISOR DONALD P. WOODWARD							
14. SOURCE OF FUNDS				15. FOR USE OF COMPTROLLER'S OFFICE											
a. CODE OR AGENCY	b. SUB-PROJECT (TASK AREA) END ITEM AND TASK NR NO.	c. FY	d. AMOUNT	APPROPRIATION	OBJ. CLASS	BUREAU CONTROL NO.	AUTH. ACCT. NO.	TRANS. TYPE	PAA	COST CODE					
454	NR 006-02-02 1-12 NR 144-246 (42)	70	20,930	17X1319.140	25	12 501	14	2B	-	1K54					
16. COMMITMENT				17. DR APPROVALS (Typed names and signatures)											
e. AMOUNT APPROVED 20,930.00				<table border="1"> <tr> <td>PROGRAM DIRECTOR <i>Donald P. Woodward</i></td> <td>DIVISION DIRECTOR G. L. BRYAN</td> </tr> <tr> <td>DEPUTY DIRECTOR OF RESEARCH (RESEARCH) A. W. PRYCE</td> <td>DIRECTOR OF RESEARCH R. TRUMBULL</td> </tr> </table>								PROGRAM DIRECTOR <i>Donald P. Woodward</i>	DIVISION DIRECTOR G. L. BRYAN	DEPUTY DIRECTOR OF RESEARCH (RESEARCH) A. W. PRYCE	DIRECTOR OF RESEARCH R. TRUMBULL
PROGRAM DIRECTOR <i>Donald P. Woodward</i>	DIVISION DIRECTOR G. L. BRYAN														
DEPUTY DIRECTOR OF RESEARCH (RESEARCH) A. W. PRYCE	DIRECTOR OF RESEARCH R. TRUMBULL														
18. TRANSFER OF FUNDS FROM (Code)				19. OFFICE OF NAVAL RESEARCH PROCUREMENT SERVICES GROUP <i>des 8/19/69</i> ONR COMPTROLLER											



AUG 11 1969

AUG 18 1969

3. PROCUREMENT SERVICES

RESEARCH AND TECHNOLOGY WORK UNIT SUMMARY						1. AGENCY ACCESSION*	2. DATE	3. SUMMARY*	REPORT CONTROL SYMBOL
3. DATE PREV SUM'RY	4. KIND OF SUMMARY	5. SUMMARY SCTY*	6. WORK SECURITY*	7. REGRADING*	8A. DISB'N INSTR'N	6 Aug 69		8B. SPECIFIC DATA- CONTRACTOR ACCESS	9. LEVEL OF SUM
23 Aug 68	D. CHANGE	U	U	NA	NL			<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	A. WORK UNIT
10. NO./CODES*	PROGRAM ELEMENT	PROJECT NUMBER		TASK AREA NUMBER		WORK UNIT NUMBER			
a. PRIMARY	61102N	RR 006-02		RR006-02-02		144-246			
b. CONTRIBUTING									
c. CONTRIBUTING									
11. TITLE (Precede with Security Classification Code)*									
(U) The Effects of Exposure to Radio Frequency Energy and Ionized Air on Performance									
12. SCIENTIFIC AND TECHNOLOGICAL AREAS*									
013400 Psychology; 002400 Bioengineering; 016200 Stress Physiology									
13. START DATE		14. ESTIMATED COMPLETION DATE		15. FUNDING AGENCY		16. PERFORMANCE METHOD			
Feb 69		CONT		DA		B. Contract			
17. CONTRACT/GRANT				18. RESOURCES ESTIMATE		19. PROFESSIONAL MAN YRS		20. FUNDS (in thousands)	
a. DATES/EFFECTIVE:				PRECEDING					
b. NUMBER: *N00014-69-C-0181				FISCAL		.17		8.6	
c. TYPE:				YEAR		.42		20.8	
d. AMOUNT:				70					
19. RESPONSIBLE DOD ORGANIZATION				20. PERFORMING ORGANIZATION					
NAME: OFFICE OF NAVAL RESEARCH DEPARTMENT OF THE NAVY WASHINGTON, D. C. 20360				NAME: Randomline, Inc. Old York & Moreland Roads Willow Grove, Pa. 19090					
RESPONSIBLE INDIVIDUAL: Tolhurst, G. C., Dr. 454				PRINCIPAL INVESTIGATOR (Furnish SSAN if U.S. Academic Institution)					
NAME:				NAME: Frey, A. H.					
TELEPHONE: AREA Code 202 0X6-1056				TELEPHONE: /HVN/ 215 019-6228					
21. GENERAL USE				SOCIAL SECURITY ACCOUNT NUMBER:					
				ASSOCIATE INVESTIGATORS					
				NAME:					
				NAME:					
22. KEYWORDS (Precede EACH with Security Classification Code)									

(U) Air ions; (U) electromagnetic energy; (U) nervous system; (U) electrophysiological

23. (U) Within the Navy, there are many relatively closed spaces in which personnel are exposed to varying levels of electromagnetic radiation and/or ionized air which could effect individual performance. This work unit is concerned with the effects of exposure to radio frequency energy and ionized air on neural activity and behavior.

24. (U) Work planned for the coming year included (1) experiments on the mechanism of the neural effect of radar wavelength energy, (2) additional experiments on the effects of exposure to radio frequency energy on heart function, and (3) further work on the relationship between air ionization and olfaction.

25. (U) Preliminary results of experimentation done in the few months this contract has been active indicate that the electrostatic environment (subject, equipment, walls, etc.) influence the outcome of experiments in olfaction and aerosol deposition. The electrical response of olfactory tissue to odorants also was demonstrated to be a function, in part, of the method of delivery. By controlling the environment and stimulus delivery methods, rather different electrical responses have been recorded than previously found. If confirmed these data will require new interpretation of the electrical response and probably of the mechanism of olfaction. An improved experimental system for examining the effects of radio frequency energy on heart function has been set up and debugged.

No reports distributed because of recency of contract.

RANDOMLINE, INC.

Glenside Avenue & Limekiln Pike
Glenside, Penna. 19038

(215) TU 7-3121

June 20, 1969

DCASR
P.O. Box 7478
Philadelphia, Pa. 19101

ATTN: DCRP-COK-C

RE: Request for renewal of contract
N00014-69-C-0181

Gentlemen:

Enclosed is our proposal for renewal of the above cited contract. All reporting requirements have been complied with to date.

Sincerely,



A. R. Zandle

ARZ/bf

c.c. Procuring Contract Office (code 622)
Office of Naval Research
Washington, D. C. 20360

RANDOMLINE, INC.

Glenside Avenue & Limekiln Pike

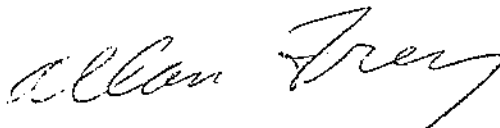
Glenside, Penna. 19038

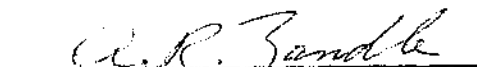
(215) TU 7-3121

Request for Renewal of Contract N00014-69-C-0181

Experimentation on the Electrical Environmentation and Neural Function

Allan H. Frey


Principal Investigator


Secretary-Treasurer

In previous years, our experimentation has been primarily concerned with the behavioral and physiological effect of radar wavelength rf energy and the effect of variation in level of air ionization such as that induced by closed environments, electronic equipment, and nuclear energy.

We have established that rf energy can evoke potentials in the brain stem and experimentally defined the critical variables in the effect. We have also used the isolated frog heart to study the effect of rf energy on an autoactive system. A rather marked effect appeared at low power density with certain stimulation parameters. The writer observed somewhat similar effects on the heart of intact monkeys in limited pilot experimentation several years ago. This year, we have been studying the effect of rf energy on the autoactive neural system of crustaceans in order to determine the mechanism of the rf effect.

On the basis of these data and the development of a general view of neural function in which the CNS is regarded as a solid-state system, certain experiments with rf energy are clearly indicated. First, the experiments with the autoactive neural system of crustaceans will be extended in order to obtain definitive information on the mechanism of the neural effect of radar wavelength energy. These experiments will include threshold and histogram procedures. There will also be joint projects with another lab to further define at the molecular level the nature of neural functioning. Then there will be a return to data collection with intact mammals using S band radar. The theoretical view developed suggests the need for experiments in S band, as well as in the adjacent L band in which we have done much of our work, due to a possible effect of rf energy on OH bonds.

The work with the crustaceans has reached a natural break point so we will shift the rf work to the use of the frog heart. We shall

synchronize the pulse of rf energy with the T wave to extend and clarify our previous findings on cardiac function.

In our experiments with air ions, we earlier established that small negative ions affect the functioning of the nervous system as indicated by change in the conditioned emotional response. We also defined the critical variables to control in order to carry out definitive studies with air ions. This work was extended to another area this past year in an analysis of the contradictory results that have been obtained in the area of olfaction. It was shown that the contradictory experimental results in the literature were probably due in large part to the lack of control over air ionization and electrical field gradients. The findings with air ionization and olfaction help to clarify the mechanism of olfaction. A technical report in MS form will be submitted on this within the next few weeks. We shall soon extend this work further assuming the availability of the GFE Data analysis system, Specimen set-up system, and Behavioral assay system that has been discussed with Scientific Officer.

All of this experimentation can not be done in this coming year, but it will be carried as far as possible.

Budget Estimate

Professional personnel (senior)	6MM @ 1408/mo	8,448
Engineering assistant	10MM @ 435/mo	4,350
Employee benefit	@ 17%	2,176
Materials (subjects and small equipment items)		915
Travel (for technical discussions with other investigators)		290
Indirect	@ 20%	3,235
Fee	@ 7.8%	1,516
Total		\$ 20,930

done

MILITARY RELEVANCE STATEMENT
AVSO 3900/7 (1-70)

OFFICE OF NAVAL RESEARCH

IR NUMBER	DATE OF PR	CONTRACT NUMBER	MODIFICATION NUMBER
NR- 144-246	8/6/69	N00014-69-C-0181	
CONTRACTOR (NAME ONLY)			PROPOSED FUNDING
Randomline, Inc.			\$ 20,930

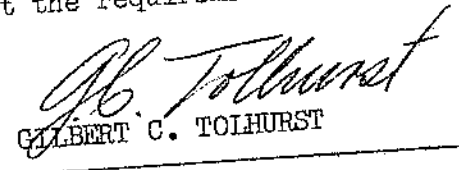
Bachman

STATEMENT ON DIRECT AND APPARENT RELATIONSHIP TO A
SPECIFIC MILITARY FUNCTION OR OPERATION PURSUANT TO
PL 91-121, FY 1970 AUTHORIZATION ACT

1. The work to be accomplished under this contract/grant relates to establishment of the effects of exposure to radio frequency energy on neural activity and subsequent behavior.

AM
402
3/7/70

2. This contract/grant is certified to meet the requirements of Section 203 as indicated in paragraph 1. above.


GILBERT C. TOLHURST

SCIENTIFIC OFFICER

RESEARCH AND TECHNOLOGY WORK UNIT SUMMARY				1. AGENCY ACCESSION*	2. DATE	3. REPORT CONTROL SYMBOL
4. SUMMARY SCVT	5. WORK SECURITY*	6. REGRADING*	7. DISSEM INSTN*	8. SPECIFIC DATA- CONTRACTOR ACCESS	9. LEVEL OF SOW	
U	U	IA	IL	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	A. WORK UNIT	
10. PROGRAM ELEMENT		11. TASK AREA NUMBER		12. WORK UNIT NUMBER		
PROJECT NUMBER		13.000-02-02		144-246		
15. TITLE (Precede with Security Classification Code)						
(U) The Effects of Exposure to Radio Frequency Energy and Ionized Air on Performance						
16. SCIENTIFIC AND TECHNOLOGICAL AREAS*						
01200 Psychology; 002400 Bioengineering; 016200 Stress Physiology						
17. START DATE		18. ESTIMATED COMPLETION DATE		19. FUNDING AGENCY		
Feb 69		CONT		D. Contract		
20. CONTRACT GRANT		21. EXPIRATION:		22. RESOURCES ESTIMATE		
NUMBER: H00014-69-C-0101		23. D. AMOUNT:		24. PRECEDING		
25. TYPE:		26. FISCAL YEAR		27. PROFESSIONAL MAN YRS		
6. KIND OF AWARD:		70		.17		
9. RESPONSIBLE DOD ORGANIZATION		28. CURRENT		8.6		
NAME:		29. PERFORMING ORGANIZATION		20.8		
ADDRESS:		NAME: Randomline, Inc.				
RESPONSIBLE INDIVIDUAL		ADDRESS: Old York & Moreland Roads				
Tolhurst, G. C., Dr. 454		Mellow Grove, Pa. 19090				
NAME:		PRINCIPAL INVESTIGATOR (Furnish SSAN if U.S. Academic Institution)				
TELEPHONE:		NAME: Froy, A. H.				
21. GENERAL USE		TELEPHONE: HWY 215				
		SOCIAL SECURITY ACCOUNT NUMBER:				
		ASSOCIATE INVESTIGATORS				
		NAME:				
		NAME:				
22. KEYWORDS (Precede EACH with Security Classification Code)						
(U) Air ions; (U) electromagnetic energy; (U) nervous system; (U) electrophysiology						
23. TECHNICAL OBJECTIVE, 24. APPROACH, 25. PROGRESS (Furnish individual paragraphs identified by number. Precede text of each with Security Classification Code.)						
23.(U) Within the Navy, there are many relatively closed spaces in which personnel are exposed to varying levels of electromagnetic radiation and/or ionized air which could affect individual performance. This work unit is concerned with the effects of exposure to radio frequency energy and ionized air on neural activity and behavior.						
24.(U) Work planned for the coming year included (1) experiments on the mechanism of the neural effect of radar wavelength energy, (2) additional experiments on the effects of exposure to radio frequency energy on heart function, and (3) further work on the relationship between air ionization and olfaction.						
25.(U) Preliminary results of experimentation done in the few months this contract has been active indicate that the electrostatic environment (subject, equipment, walls, etc.) influence the outcome of experiments in olfaction and aerosol deposition. The electrical response of olfactory tissue to odorants also was demonstrated to be a function, in part, of the method of delivery. By controlling the environment and stimulus delivery methods, rather different electrical responses have been recorded than previously found. If confirmed these data will require new interpretation of the electrical response and probably of the mechanism of olfaction. An improved experimental system for examining the effects of radio frequency energy on heart function has been set up and debugged.						
No reports distributed because of recency of contract.						

CONTRACTOR (Name and Address)

Randomline, Inc.
Glenside Avenue & Limekiln Pike
Glenside, Pennsylvania 19038
Attn: Mr. A. Zandle
39

ADMIN. OFFICE

DCASR Philadelphia 39

DISBURSING OFFICE (Name and Account No.)

DCASR Philadelphia 5704

CONTRACT IDENTIFICATION

	C	C(P)	F	CONTRACT NO.	AMENDMENT NO.
FIRM FIXED-PRICE		X		N00014-69-C-0181	---
COST TYPE	A	B		DOCUMENT TO BE DATED	NR NO.
				15 February 1969	144-246/8-23-68

OTHER (Specify)

DESCRIPTION OF CONTRACTUAL SERVICES

AIM1 - Behavioral-Social Sciences

Note #1: Attach Individual Procurement Action Report form DD-350 as part of this Worksheet and fill in data as applicable.

Note #2: Review check-list below for completion of additional contract preparatory actions.

CHECK LIST OF PREPARATORY ACTIONS	REQUIRED		STATUS	
	YES	NO		
STATEMENT FROM CONTRACTOR RE USE OF COMPANY OR PERSON TO SOLICIT	X		<input checked="" type="checkbox"/> RECEIVED	<input type="checkbox"/> NOT RECEIVED
CONTRACTING OFFICER'S STATEMENT		X		
NEGOTIATION CLEARANCE (NAVEXOS-2759)		X	NO.	
AUTHORITY TO CONTRACT - "BUSINESS" CLEARANCE (NAVEXOS-2760)		X	NO.	
METHOD OF CONTRACTING (D & F)	X	X	NO. 37659 20,680.00	
NEGOTIATION D & F	X		NO. 37658	
		X		

DD-254 (If required, identify: Basic; Amend.; Annex; Other)

Remarks

ONR TECHNICAL CODE/BUREAU 454

ACTION DATES

PR OR REQUISITION DATED	23 Aug 1968
PR/REQUISITION RECEIVED IN CODE 600 .	11 Sept 1968
PROCUREMENT PACKAGE RELEASED FROM NEGOTIATION	23 Jan 69
MAILED TO CONTRACTOR	FEB 26 1969
FINAL EXECUTION	6 MAR 1969
BEGINNING DATE OF CONTRACT ACTION ...	15 Feb 1969
SIGNATURE	DATE
<i>W. C. Fuller</i>	23 Jan 69

26

30VAL

2. CURRENT SECURITY REQUIREMENTS
☒ NONE ☐ DD 254 DATED _____

Sullivan 9/11/82

SOLICITATION

7A. CONTRACT DESCRIPTION OF WORK

SOLICITATION					
7A. CONTRACT DESCRIPTION OF WORK					
To perform research aimed at discovering and predicting the effects of air ions and centimeter electromagnetic energy upon the nervous system and on behavior.					

7A. CONTRACT NO. N. N00014-69-C-0181		B. TASK SUPERVISOR (SIGNATURE) DONALD P. WOODWARD						
7B. NR 144-246		11. FOR USE OF COMPTROLLER'S OFFICE						
9. SOURCE OF FUNDS		APPROPRIATION	OBJ. CL.	BUREAU CONTROL NO.	AUTH. ACCT. ACT.	TRANS TYPE	P A A	COST CODE
CODE OR AGENCY	SUB-PROJECT, (TASK AREA), END ITEM, AND TASK NR NO.	FY	AMOUNT					
454	RR 006-02-02, 1-24 NR 144-246	69	\$20,680	17X1319.14	91	25	24501-	14
								2E
								1K54
								SEP 11 '68 AM
10. "TRANSFER OF FUNDS" FROM (CODE)		12. AMT. APPROVED		13. COMMITMENT				
		20680.00		TRANSMITTAL NO. 0010				
OACR APPROVAL (SIGNATURES AND DATES)								
DIRECTOR (TYPE NAME) Program Director G. C. TOLHURST		DIVISION/DIRECTOR (TYPE NAME) L. PETRUZZO		GROUP DIRECTOR (TYPE NAME) Director of Research				
DEPUTY DIRECTOR (TYPE NAME) Deputy Director of Research (Research)		DATE AUG 29 1968		TO TRIMBULL				

RESEARCH AND TECHNOLOG. RESUME		1.	2. GOVT ACCESSION	3. AGENCY ACCESSION	REPORT CONTROL SYMBOL
4. DATE OF RESUME 23 Aug 68	5. KIND OF RESUME A. NEW	6. SECURITY RPT U W	7. REGRADING	8. RELEASE LIMITATION FO	9. LEVEL OF RESUME A. WORK UNIT
10a. CURRENT NUMBER/CODE 61102N-42 RR 006-02-02 NR 144-246		10b. PRIOR NUMBER CODE NONE			

11. TITLE.
(U) The Effects of Exposure to Radio Frequency Energy and Ionized Air on Performance

12. SCIENTIFIC OR TECH. AREA 013400 Psychology; 002400 Bioengineering; 016200 Stress Physiology		13. START DATE	14. CRIT. COMPL. DATE -N/A-	15. FUNDING AGENCY
16. PROCURE. METHOD B. Contract	17. CONTRACT/GRANT a. NUMBER c. TYPE d. AMOUNT	18. RESOURCES EST. PRIOR FY 68 CURRENT FY 69	19. PROFESSIONAL MAN-YEARS -0- .33	20. FUNDS (in thousands) -0- 4

19. GOV'T LAB/INSTALLATION/ACTIVITY
OFFICE OF NAVAL RESEARCH
DEPARTMENT OF THE NAVY
PHYSIOLOGICAL PSYCHOLOGY BRANCH
WASHINGTON, D.C. 20360
Tolhurst, G. C., Dr., 454
AREA Code 202, OX-61056

20. PERFORMING ORGANIZATION
NAME
Address
Randosline, Inc.
Glenside Avenue & Limekiln Pike
Glenside, Pennsylvania 19038
Dr. A. H. Frey
INVESTIGATORS
PRINCIPAL
ASSOCIATE
TEL - N/A -
TYPE

21. TECHNOLOGY UTILIZATION
48. Communications

23. KEYWORDS
Air ions; centimeter electromagnetic energy; behavioral; nervous system; electrophysiological

24. (U) OBJECTIVE. Within the Navy, there are many relatively closed spaces in which personnel are exposed to varying levels of electromagnetic radiation and/or ionized air which could effect individual performance. This work unit is concerned with the effects of exposure to radio frequency energy and ionized air on neural activity and behavior.

25. (U) APPROACH. Work planned for the coming year includes (1) experimentation to obtain more precise information on the mechanism of the neural effect of radar wavelength energy, including further definition of neural functioning at the molecular level, and (2) extension of the air ionization studies using increased ion concentrations.

26. (U) PROGRESS. The principal investigator, A. H. Frey, is a recognized expert in the fields of the effects of air ionization and electromagnetic radiation on the human nervous system and behavior. He performed some of the original experimentation in this country in both fields. In addition to excellent experimentation he has also designed and built special recording apparatus for experimental use. Mr. Frey has more than twenty journal publications in the areas of air ionization effects, electromagnetic radiation effects and related fields.

REPORT BIBLIOGRAPHY: NONE.

27. COMMUNICATIONS SECURITY a. COMSEC OR COMSEC RELATED <input checked="" type="checkbox"/> NOT RELATED MISSION OBJECTIVE GOR-33	28.	29. OSD CODE BR	30. BUDGET CODE 1
REQUESTING AGENCY - N/A -	34. SPECIAL EQUIPMENT - N/A -	32. PARTICIPATION	
EST. FUNDS (in thousands) - N/A -	36.		

FORM 1498
1 AUG 64

(Items 1 to 26 identical to NASA Form 1122) REPLACES DD FORMS 613 & 613C WHICH ARE OBSOLETE.

logged
G/13 1968
LET 10
DPW _____

RANDOMLINE, INC.

Glenside Avenue & Limekiln Pike

Glenside, Penna. 19038

(215) TU 7-3121

August 8, 1968

Dr. Gilbert Tolhurst (454)
Head, Physiological Psychology Branch
Office of Naval Research
Washington D. C.

Dear Dr. Tolhurst:

Enclosed for your review and consideration is our proposal "Electrical environment and neural function" written by Allan H. Frey. It is concerned with experimentation to determine the nature of the effect of radar frequency energy and electrical space charge on neural function.

If you have any questions of a technical nature, please contact A. H. Frey. Questions on administrative matters should be directed to the undersigned.

Sincerely,

A. Zandle

A. Zandle

AZ:mgf
Enclosure

AUG 2 1968

207 467

5B1 Mount Vernon Gardens
Glenside, Pa. 19038
July 30, 1968

Dr. Gilbert Tolhurst (454)
Head, Physiological Psychology Branch
Office of Naval Research
Washington, D. C.

Dear Gib:

My tentative decision to stay in the Glenside area is now definite. I will continue my experimentation here and will work jointly with the people in other disciplines scattered around here who are also interested in the same things as I.

I will continue in my position at HRB on a part time basis even after I complete the accelerated work on the present contract. I would prefer, however, to initiate a new contract which would be with Randomline, Inc. rather than renew the old one with HRB since Randomline will be home base. I've enclosed a copy of the proposal. The official copies should reach you in about a week.

If you have any questions, I can be reached at Randomline. I am doing the rf work there as well as the olfactory experiments. I'll be leaving the latter part of this week and will be away all of next week. I shall be visiting several labs. I'm looking forward to having an interesting time with John Gaito.

With best regards, I am

Sincerely,

Allan

Allan H. Frey

AHF/bwf

fl Thanks for the reprint. I've reprod it

ME 144-158

RANDOMLINE, INC.

Glenside Avenue & Limekiln Pike

Glenside, Penna. 19038

(215) TU 7-3121

A Proposal for Experimentation on the Electrical Environment and Neural Function

Allan H. Frey

In previous years, our experimentation has been primarily concerned with the behavioral and physiological effect of radar wavelength rf energy and the effect of variation in level of air ionization such as that induced by closed environments, electronic equipment, and nuclear energy.

We have established that rf energy can evoke potentials in the brain stem and experimentally defined the critical variables in the effect. We have also used the isolated frog heart to study the effect of rf energy on an autoactive system. A rather marked effect appeared at low power density with certain stimulation parameters. The writer observed somewhat similar effects on the heart of intact monkeys in limited pilot experimentation several years ago. This year, we have been studying the effect of rf energy on the autoactive neural system of crustaceans in order to determine the mechanism of the rf effect.

On the basis of these data and the development of a general view of neural function in which the CNS is regarded as a solid-state system, certain experiments with rf energy are clearly indicated. First, the experiments with the autoactive neural system of crustaceans will be extended in order to obtain definitive information on the mechanism of the neural effect of radar wavelength energy. These experiments will include threshold and histogram procedures. There will also be joint projects with another lab to further define at the molecular level the nature of neural functioning. Then there will be a return to data collection with intact mammals using S band radar. The theoretical view developed suggests the need for experiments in S band, as well as in the adjacent L band in which we have done much of our work, due to a possible effect of rf energy on OH bonds.

In our experiments with air ions, we earlier established that small negative ions affect the functioning of the nervous system as indicated

by change in the conditioned emotional response. We also defined the critical variables to control in order to carry out definitive studies with air ions. This work was extended to another area this past year in an analysis of the contradictory results that have been obtained in the area of olfaction. It was shown that the contradictory experimental results in the literature were probably due in large part to the lack of control over air ionization and electrical field gradients. A solution to these difficulties was offered.

Since the CER line of investigation with ions is being extended by other investigators with positive results, we shall delve more deeply into the mechanism of the effect. We now have a "clean chamber" available and very good control of the environment including space charge. We shall extend the work with increased ion concentrations using a brain implant preparation (Poschel's technique). We will be particularly interested in the effect of CO_2^+ since another investigator has recently obtained behavioral data which, taken with our O_2^- data, suggests that our hypothesis on the mechanism of O_2^- and CO_2^+ may be substantially correct.

All of this experimentation can not be done in this coming year, but it will be carried as far as possible.

Budget Estimate

Professional personnel (senior)	6MM @ 1408/mo	8,448
Engineering assistant	10MM @ 426/mo	4,260
Employee benefit	@ 14%	1,778
Materials (subjects and small equipment items.)		1,120
Travel (for technical discussions with other investigators.)		380
Indirect	@ 20%	3,198
Fee	@ 7.8%	1,496
Total		\$ 20,680

Proj
Paper

ONR PROCUREMENT REQUEST AND APPH L
NAVSO 3900/3 (REV. 2-67)

1. SUBMISSION DATE

23 August 1968

2. CURRENT SECURITY REQUIREMENTS

☒ NONE

☐ DD 254 DATED _____

TASK TITLE

(U) The Effects of Exposure to Radio Frequency Energy
and Ionized Air on Performance

EAM: Behavioral Biophysics

3. RECOMMENDATION

DOCUMENT

TYPE OF ACTION

CONTRACT

☒

NEW

☒

RENEWAL

GRANT

ACCELERATION

EXPANSION

EQUIPMENT LOAN

OTHER

OVER-RUN

NO-FUNDS EXTENSION

REDUCTION

CONTRACTOR (NAME AND LOCATION OF WORK PERFORMANCE)

Randomline, Inc.
Glenside Avenue & Lincoln Pike
Glenside, Pennsylvania 19038

PRINCIPAL INVESTIGATOR

Dr. A. H. Frey

4. BASIS FOR CONTRACTOR SELECTION
(new procurement only)

5. EXPENDITURE RATE

		FY	AMOUNT (Designate R and L)
		69	70
<input checked="" type="checkbox"/>	UNSOLICITED PROPOSAL		\$ 5,170
			15,510
	SOLE SOURCE		
	SOLICITATION		

6. PERIOD TO BE COVERED BY THIS PROCUREMENT
ACTION (enter dates)

FROM 4-1-69 TO 3-31-70

7A. CONTRACT DESCRIPTION OF WORK

To perform research aimed at discovering and predicting the effects of air ions
and centimeter electromagnetic energy upon the nervous system and on behavior.

7B.

NR 144-246

7C. CONTRACT NO.

N

8. TASK SUPERVISOR (Signature)

DONALD P. WOODWARD

9. SOURCE OF FUNDS

11. FOR USE OF COMPTROLLER'S OFFICE

CODE OR AGENCY	SUB-PROJECT, (TASK AREA), END ITEM, AND TASK NR NO.	FY	AMOUNT	APPROPRIATION	OBJ. CL.	BUREAU CONTROL NO.	AUTH. ACCT. ACT.	TRANS TYPE	P A A	COST CODE
454	NR 006-02-02, 1-24 NR 144-246	69	\$23,680	17X1319.14			14	2B		

10. "TRANSFER OF FUNDS" FROM (CODE)

12. AMT. APPROVED

13. COMMITMENT

TRANSMITTAL NO.

ONR COMPTROLLER (Initials and date)

OACR APPROVAL (SIGNATURES AND DATES)

~~XXXXXXXXXX~~ (TYPE NAME)
Program Director

~~XXXXXXXXXX~~ DIVISION/PROGRAM DIRECTOR (TYPE NAME)

~~XXXXXXXXXX~~ GROUP DIRECTOR (TYPE NAME)

G. C. TOLHURST

L. PETRUCCIO

~~XXXXXXXXXX~~ Deputy Director of Research
(Research)

~~XXXXXXXXXX~~ Director of Research

A. W. PRYCE (Acting)

R. TRUMBULL

6. COMPTROLLER

RESEARCH AND TECHNOLOGY RESUME			1.	2. GOVT ACCESSION	3. AGENCY ACCESSION	REPORT CONTROL SYMBOL
4. DATE OF RESUME 23 Aug 68	5. KIND OF RESUME A. NEW	6. SECURITY RP: U U WRK	7. REGRADING	8. RELEASE LIMITATION FO	9. LEVEL OF RESUME A. WORK UNIT	
10a. CURRENT NUMBER/CODE 61102N-42 RR 006-02-02 RR 144-246			10b. PRIOR NUMBER CODE NONE			
11. TITLE: (U) The Effects of Exposure to Radio Frequency Energy and Ionized Air on Performance						
12. SCIENTIFIC OR TECH. AREA 013400 Psychology; 002400 Bioengineering; 016200 Stress Physiology			13. START DATE	14. CRIT. COMPL. DATE -N/A-	15. FUNDING AGENCY	
16. PROCURE. METHOD B. Contract	17. CONTRACT/GRANT a. DATE b. NUMBER c. TYPE d. AMOUNT		18. RESOURCES EST. PRIOR FY 68 CURRENT FY 69	a. PROFESSIONAL MAN-YEARS -0- -33	b. FUNDS (In thousands) -0- 4	
19. GOV'T LAB/INSTALLATION/ACTIVITY OFFICE OF NAVAL RESEARCH DEPARTMENT OF THE NAVY PHYSIOLOGICAL PSYCHOLOGY BRANCH WASHINGTON, D.C. 20360 RESP. INDIV. Talhurst, G. C., Dr., 454 TEL AREA Code 202, OX-61056			20. PERFORMING ORGANIZATION NAME Randonline, Inc. ADDRESS Glenside Avenue & Lincolnton Pike Glenside, Pennsylvania 19038 INVESTIGATORS PRINCIPAL Dr. A. H. Frey ASSOCIATE TEL - N/A - TYPE			
21. TECHNOLOGY UTILIZATION 48. Communications			22. COORDINATION			
23. KEYWORDS Air ions; centimeter electromagnetic energy; behavioral; nervous system; electrophysiological						
24. (U) OBJECTIVE. Within the Navy, there are many relatively closed spaces in which personnel are exposed to varying levels of <u>electromagnetic radiation</u> and/or <u>ionized air</u> which could effect individual performance. This work unit is concerned with the effects of exposure to <u>radio frequency energy</u> and <u>ionized air</u> on <u>neural activity</u> and behavior.						
25. (U) APPROACH. Work planned for the coming year includes (1) experimentation to obtain more precise information on the mechanism of the <u>neural effect</u> of <u>radar wavelength energy</u> , including further definition of neural functioning at the <u>molecular level</u> , and (2) extension of the <u>air ionization</u> studies using increased ion concentrations.						
26. (U) PROGRESS. The principal investigator, A. H. Frey, is a recognized expert in the fields of the effects of air ionization and electromagnetic radiation on the human nervous system and behavior. He performed some of the original experimentation in this country in both fields. In addition to excellent experimentation he has also designed and built special recording apparatus for experimental use. Mr. Frey has more than twenty journal publications in the areas of air ionization effects, electromagnetic radiation effects and related fields.						
REPORT BIBLIOGRAPHY: NONE.						
27. COMMUNICATIONS SECURITY <input type="checkbox"/> a. COMSEC OR COMSEC RELATED <input checked="" type="checkbox"/> b. NOT RELATED		28.	29. OSD CODE BR	30. BUDGET CODE 1		
31. MISSION OBJECTIVE GCR-38			32. PARTICIPATION			
33. REQUESTING AGENCY - N/A -		34. SPECIAL EQUIPMENT - N/A -				
35. EST. FUNDS (In thousands) CFY+1 - N/A -		36.				

INDIVIDUAL PROCUREMENT ACTION REPORT				REL. CONTROL SYMBOL		DD-141 (Rev. 10-14)	
1A. REPORT NO. (Current)		1B. (3)		1C. REPORT NO. (Previous)		2. CONTRACT NO.	
1138-72				0720-71		A. Dept. B. Activity C. FY. D. Serial No. E. RO	
Item 3 Code		3. CORRECTION OF PRIOR DD FORM 350 Number				4. MOD. NO. AND OTHER IDENT.	
		1. Corrected entry 2. Reversing entry				T.O. Mod. P00005	
Item 5 Code		5. PURCHASING OFFICE					
0214		Office of Naval Research, Procurement Services, Arlington, Va. 22217					
Item 5A Code		5A. SOUTHEAST ASIA (Actions of \$200,000 or more)					
		1. In support of SEA 2. Not in support of SEA					
Item 6 Code		6. CONTRACTOR IDENTIFICATION					
		Company Name: Randomline, Incorporated					
		Division Name (if any):					
		Number and Street: Old York & Moreland Roads					
709653		City and State or Country: Willow Grove, Pennsylvania 19010					
Item 7 Code		7. PRINCIPAL PLACE OF PERFORMANCE (City and State or Country)				7A. 7B.	
City State		5680 39 SAME					
Item 7C Code		7C. MULTI-YEAR PROCUREMENT ASPR 1-322.1(a)					
C		A. First year B. Second or subsequent year C. Not a multi-year procurement					
Item 8 Code		8. SUBJECT TO WALSH-HEALEY OR SERVICE CONTRACT ACT					
D		A. Walsh-Healey Act, Manufacturer B. Walsh-Healey Act, Regular Dealer C. Service Contract Act D. Not subject to Walsh-Healey or Service Contract Act					
Item 9 Code		9. LABOR SURPLUS AREA					
5		1. Labor Surplus Area—No preference 2. Labor Surplus Area—Tie bid preference 3. Labor Surplus Area—Set Aside preference 4. Labor Surplus Area/Concern individually certified by Dept. of Labor 5. Not a Labor Surplus Area					
10A. FSC OR SV CODE		10B. SYSTEM OR EQUIPMENT CODE		10C. DD CLAIMANT PROG. NO.		11. DESCRIPTION OF COMMODITY OR SERVICE	
A1E1		000 41		S-1		Electronics 53910A	
Item 12 Code		12. COORDINATED PROCUREMENT					
8		1. Procurement Agreement 2. (Reserved - Do not use) 3. GSA Supply Schedule (Enter Code 1 in item 15) 4. (Reserved - Do not use) 5. Single Department Procurement 6. Defense Supply Agency 7. Outside U.S. 8. Other					
Item 13 Code		13. SYNOPSIS OF PROPOSED PROCUREMENT					
A		A. Synopsized per ASPR 1-1003.9 E. Not Synopsized; Original Estimate under \$10,000 Not synopsized per ASPR 1-1003.1 Exception: 1 2 3 4 5 6 7 8 9					
Item 14 Code		14. KIND OF PROCUREMENT ACTION					
6		1. Initial Letter Contract 2. Definitive Contract superseding Letter Contract 3. Definitive Contract (Including Notice of Award) 4. Order under Contract 5. Provisioning Order 6. Additional work 7. Funding action 8. Change Order 9. Termination or cancellation					
Item 15 Code		15. CONTRACT PLACEMENT					
5		1. Intragovernmental (Do not fill in items 16 thru 21) 2. Two-step formal advertising (Do not fill in items 17 thru 19) 3. Other formal advertising (Do not fill in items 17 thru 19) 4. Small Business restricted advertising (Fill in all items) 5. Other negotiated (Fill in all items) 6. Foreign Military Sales (Do not fill in items 16 thru 21)					
Item 16 Code		16. SMALL BUSINESS					
J		A. Not solicited B. Solicited but did not bid C. Bid was not low D. Bid not accepted for other reasons J. Awarded to Small Business K. Awarded to nonprofit institution L. Awarded for work outside U.S. and possessions					
Item 17 Code		17. NEGOTIATED UNDER 10 USC 2304(a) EXCEPTION					
11		For 10 USC 2304(a)(1), ASPR 3-201.2 Citation: Negotiation accomplished pursuant to 10 USC 2304(a), Clause No.: For 10 USC 2304(a)(10), ASPR 3-210.2 Citation: 1A. Labor Surplus Area or industry set-aside 2 7 12 16 10-1 10-6 10-11 10-16 1B. Unilateral Small Business set-aside 4 8 13 10-2 10-7 10-12 10-17 1C. Disaster Area set-aside 5 9 14 10-3 10-8 10-13 10-26 1E. Balance of Payments Program 6 11 15 10-4 10-9 10-14 10-5 10-10 10-15 Otherwise authorized by law: 17A. Joint Small Business set-aside 17B. Other (Specify) PL 85-536					
Item 18 Code		18. EXTENT OF COMPETITION IN NEGOTIATION					
5		Competitive: 1. Price competition 2. Design, technical, or other competition Non-competitive follow-on action after: 3. Price competition 4. Design, technical, or other competition 5. Other non-competitive					
Item 19 Code		19. CERTIFIED COST OR PRICING DATA (This action only) ASPR 3-807.3					
B		A. Required B. Not Required					
Item 20 Code		20. TYPE OF CONTRACT--ASPR SECTION III, PART 4					
J		Fixed Price Rede-termination: A. Type A B. Type E C. Other J. Firm fixed price K. Fixed price escalation L. With performance incentive M. Without performance incentive R. Cost-plus-award fee S. Cost contract T. Cost sharing U. Cost-plus-fixed fee V. With performance incentive W. Without performance incentive Y. Time and materials Z. Labor hour					
Item 21 Code		21. VALUE ENGINEERING CLAUSE (ASPR SECTION I, PART 17)					
S		A. Incentive J. Program Requirement S. No value engineering clause					
22. DATE OF THIS ACTION		23. EST. COMPLETION DATE		24. TOTAL OF THIS ACTION		24A. (DD-141) 60,217	
Year Month Day		(Year and Month)		(Round out to nearest whole dollar)		7-28-71(03) 24,533 11-22-71	
C / 2 / 7		B/3		\$ 84,850			

25. TYPED NAME AND SIGNATURE OF CONTRACTING OFFICER OR REPRESENTATIVE	26. TEL. EXTEN.	27. DATE SUBMITTED
David A. Rodgers, Contract Negotiator <i>David A. Rodgers</i>	(X2-4510)	3/72

DD FORM 1 JUL 71 350

PLATE NO. 71441

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

G/N 0102-003-6002

CONTRACT NO. 69-C-0181	MODIFICATION NO. P00005	DOCUMENT DATE 73 Feb. 14	DISTRIBUTION DATE MAR 21 1972
----------------------------------	-----------------------------------	------------------------------------	---

Executed copies of the attached contract document have been forwarded by the Office of Naval Research to the principal participants (identified on this list by asterisk); other copies have been forwarded to interested activities as indicated below. Consistently, any activity issuing a modification to the basic contract should supply copies to all original recipients.

ACTIVITY	COPY DISTRIBUTION		ACTIVITY	COPY DISTRIBUTION		ACTIVITY	COPY DISTRIBUTION	
	NORMAL REQ'M'T	THIS CON-TRACT		NORMAL REQ'M'T	THIS CON-TRACT		NORMAL REQ'M'T	THIS CON-TRACT
* CONTRACTOR	1	✓	FIELD ADMINISTRATION:			COGNIZANT AUDIT AGENCY		
* PCO, ONR WASHINGTON	1	✓	DIR., ONR BRANCH OFFICE BOSTON	1	X	DOD:	1	
* U.S. NAVY FINANCE CENTER CLEVELAND, OHIO	1	✓	DIR., ONR BRANCH OFFICE CHICAGO	3		HEW	1	
* ADMINISTRATIVE CONTRACTING OFFICER	1		DIR., ONR BRANCH OFFICE PASADENA	3		DEPARTMENT OF THE INTERIOR	1	
COMPTROLLER OF FUNDING ACTIVITY, HEADQUARTERS, WASHINGTON, D.C.:			ONR, CASEA 2110 G ST. NW, WASH. D.C.	3		NATIONAL SCIENCE FOUNDATION	1	
NAVAL AIR SYSTEMS COMMAND	1		ONR RESIDENT REP:	3		ATOMIC ENERGY COMMISSION	1	
NAVAL ORDNANCE SYSTEMS COMMAND	1		OCAS:			ONR - DEPARTMENTAL:		
NAU MAT SA1224			Region - Phila (Security)	1	X	CODE (441A)	1	X
NAVAL SHIPS SYSTEMS COMMAND	1	X	Philadelphie	5	X	COUNSEL, CODE 106	1	X
NAVAL ELECTRONICS SYSTEMS COMMAND	1		Philadelphie - Disbursing	1	X	PATENTS, CODE 315	1	X
NAVAL SUPPLY SYSTEMS COMMAND	2		OFFICE	6		SCIENTIFIC INFO. 400T.1	1	X
NAVAL FACILITIES ENGINEERING COMMAND	1		DOD PLANT REPRESENTATIVE			ACCOUNTING, CODE 511	1	
BUREAU OF MEDICINE AND SURGERY	2			6		PROCUREMENT SERVICES, CODE 603	1	
BUREAU OF NAVAL PERSONNEL	2		DISBURSING; NAVY REGIONAL FINANCE CENTER:			PROCUREMENT SERVICES, CODE 626	1	
NAVAL SHIP RESEARCH AND DEVELOPMENT CENTER	5		5TH NAVAL DISTRICT NORFOLK, VA.	1		OTHER:		
NAVAL RESEARCH LABORATORY	5		9TH NAVAL DISTRICT GREAT LAKES, ILL.	1		NAVAL MATERIAL COMMAND HEADQUARTERS, INSURANCE BRANCH, WASH., D.C.	1	
SPECIAL PROJECTS OFFICE	1		11TH NAVAL DISTRICT SAN DIEGO, CALIF.	1		NAVAL RESEARCH LABORATORY (CODE 1240)	1	
ARMY (Via ONR Code 511)	10		12TH NAVAL DISTRICT SAN FRANCISCO, CALIF.	1				
AIR FORCE (Via ONR Code 511)	10		14TH NAVAL DISTRICT HAWAII	1				
ADVANCED RESEARCH PROJECTS AGENCY, PENTAGON	2		U.S. NAVY REGIONAL FINANCE CENTER, WASH., D.C.	1				
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	1							
CNO (OP)	3							
MARINE CORPS	3							

CONTRACTOR: Randomline, Inc.
CONTRACT NO: N00014-69-C-0181

MODIFICATION NO: P00005

Date: 1-24-72

Code: 616R:nel

The following information should be forwarded to the Administering Office:

- (1) Clearance Memorandum dated 1-21-72
- (2) Other (indicate)

Fixed Price Mod.

ROUTING (CODE NO.)	PUR- POSE	RECEIVED	RELEASED
		DATE INITIALS	DATE INITIALS

COMMENTS
(Initial and date)

~~616~~

616

1-27-72

Don

78

~~610A~~

610A

1/24/72

610

1/28 L

603

approved military relevance steatement received

2 PRs

106

1/31/72

610A

Recorded:

Typed by:

In:

Out:

1/31/72

Read by:

Proofed by:

2/4/72

622A

Exhibit A attached

FEB 11 1972

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

PAGE 1 OF 1

1. AMENDMENT/MODIFICATION NO.

P00005

2. EFFECTIVE DATE

72 FEB 11

3. ACQUISITION/PURCHASE REQUEST NO.

NR 309-005/ 7-14-71 and 11-22-71 (111)

4. PROJECT NO. (If applicable)

N. A.

5. ISSUED BY

Procuring Contracting Officer
Office of Naval Research
Department of the Navy
Arlington, Va. 22217

CODE

N00014

SCD-B
Commander, Defense Contract
Administration Services Region
P. O. Box 7478
Philadelphia, Pennsylvania 19101

CODE

S39104

7. CONTRACTOR

NAME AND ADDRESS

CODE

5D713

FACILITY CODE

(Street, city,
county, state,
and ZIP
Code)

Randomline, Incorporated
Old York & Moreland Roads
Willow Grove, Pennsylvania 19010

☐ AMENDMENT OF
SOLICITATION NO. N. A.

DATED (See block 11)

☒ MODIFICATION OF
CONTRACT/ORDER NO.

N00014-69-C-0181

DATED (See block 11)

8. THIS BLOCK APPLIES ONLY TO AMENDMENTS OF SOLICITATIONS

(N. A.)

☐ The above numbered solicitation is amended as set forth in block 12.

The hour and date specified for receipt of Offers ☐ is extended ☐ is not extended.

Offerors must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation, or as amended, by one of the following methods:
(a) By signing and returning copies of this amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE ISSUING OFFICE PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If, by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided such telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

10. ACR	APPROPRIATION SYMBOL AND SUBHEAD	ORZ. CLASS.	11. A.G.	SUB. ALLOT.	AUTHOR'S ACCT. ACT.	TRANS. TYPE	PROG. ELE. PROG. ID.	COST CODE	AMOUNT
E	1721319.2427 NAVSHIPS Reqn. #	000	00024	0	065872	2B	602705	00006411000Q	\$60,217.00
F	1721319.1427	000	03543-03543	0	1204/11-29-71	2B	124101	030000001K41	\$24,633.00

11. THIS BLOCK APPLIES ONLY TO MODIFICATIONS OF CONTRACT/ORDERS

(a) ☐ This Change Order is issued pursuant to

The Changes set forth in block 12 are made to the above numbered contract/order.

(b) ☐ The above numbered contract/order is modified to reflect the administrative changes (such as changes in paying office, appropriation data, etc.) set forth in block 12.

(c) ☒ This Supplemental Agreement is entered into pursuant to authority of 10 U.S.C. 2304 (a) (11). It modifies the above numbered contract as set forth in block 12.

12. DESCRIPTION OF AMENDMENT/MODIFICATION

It is the desire of the Government and the Contractor that additional research on behavioral biophysics be performed, and also that the description of work be revised to more clearly set forth the research to be performed. To accomplish this, there are hereby provided a revision in the description of work, an increase in the fixed price and an extension in the period of performance of Contract N00014-69-C-0181.

In consideration of the foregoing said contract, as modified, is hereby further modified as set forth on the pages attached hereto and made a part hereof.

As provided herein, all terms and conditions of the document referenced in block 5, as heretofore changed, remain unchanged and in full force and effect.

☐ CONTRACTOR/OFFEROR IS NOT
REQUIRED TO SIGN THIS DOCUMENT

☒

CONTRACTOR/OFFEROR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN 3 COPIES TO ISSUING OFFICE

NAME OF CONTRACTOR/OFFEROR

(Signature of person authorized to sign)

17. UNITED STATES OF AMERICA

BY

(Signature of Contracting Officer)

NAME AND TITLE OF SIGNER (Type or print)

18. DATE SIGNED

18. NAME OF CONTRACTING OFFICER (Type or print)

19. DATE SIGNED

CONTRACT NUMBER: N00014-69-C-0181
MODIFICATION NO: P00005

1. In Block Number 21 of the Face Page of the Contract, delete the figure "\$93,208.00" and substitute in lieu thereof the figure "\$178,058.00."

2. In Block Number 12 of the Face Page of Modification P00004, delete the "Completion Date" in its entirety.

3. Effective as of the date of this modification, delete the first sentence of Section A of the Schedule in its entirety, and substitute in lieu thereof the following:

"This Schedule is established under, and constitutes a part of, Contract N00014-69-C-0181, consisting of: Face Page; Schedule; Exhibit A, and General Provisions pages 1 through 29, identified as 'G(P) - October 1969.'"

4. Delete Section B of the Schedule in its entirety and substitute in lieu thereof the following:

"SECTION B - SPECIFICATION OF WORK"

<u>Line Item No.</u>	<u>Supplies/Services</u>	<u>Amount</u>
0001	Scope of Work and Reports - See Exhibit A, dated 14 February 1972, attached hereto, and made a part hereof.	(See Exhibit A)

EAM TITLE: BEHAVIORAL BIOPHYSICS."

5. Delete Section C in its entirety and substitute in lieu thereof the following:

"SECTION C - PERIOD OF PERFORMANCE"

The performance of work under this contract shall commence on 15 February 1969 and shall be completed on 14 February 1973."

6. Delete Section D in its entirety and substitute in lieu thereof the following:

"SECTION D - SCIENTIFIC OFFICER"

The Scientific Officer under this contract is the Director, Physiology Programs, Biological and Medical Sciences Division, Office of Naval Research, Department of the Navy, 800 N. Quincy Street, Arlington, Virginia 22217."

7. Effective as of the date of this modification, Paragraph (1) under Section F, "Reports", shall read as follows:

"(1) The Contractor shall submit not more than fifty (50) copies of status reports to the Scientific Officer on the dates specified in Exhibit A, and not more than one Hundred (100) copies of a final technical report to be distributed in accordance with the following distribution list:

CONTRACT NUMBER: NO0014-69-G-0181
MODIFICATION NO: P00005

Paragraph (1), Section F Continued

Addressee	DODAAD Code	Number of Copies	
		Unclassified	Classified
Scientific Officer	NO0014	1	1
Cognizant ONR Branch Office	N62879	1	1
Administrative Contracting Officer	S3910A	1	1
Director, Naval Research Laboratory Washington, D.C. 20390	NO0173	6	0
Attention: Library, Code 2029 (ONRL)			
Director, Naval Research Laboratory Washington, D.C. 20390	NO0173	6	1
Attention: Technical Information Division			
Defense Documentation Center, Building 5, Cameron Station, Alexandria, Virginia 22314	S47031	12	2
Additional copies to be distributed in accordance with instructions furnished by the Scientific Officer	NO0014	65	65

With the approval of the Scientific Officer, reprints of published articles may be distributed as technical reports. In the technical reports (including reprints) submitted hereunder, there shall be affixed a face page which shall contain a statement that "reproduction in whole or in part is permitted for any purpose of the United States Government," and a statement that the research was sponsored by the Office of Naval Research, including the ONR Contract Number and the ONR Contract authority identification number (NR-, Reqn., etc.). Where reports based upon research performed under this contract are published in scientific and technical journals or where news releases are issued with regard to the work performed under this contract, there shall be included in such publications and news releases an appropriate statement acknowledging that the research being reported was accomplished with the support of the Office of Naval Research.

6. Delete Section G of the Schedule and substitute in lieu thereof the following:

"SECTION G - PAYMENT INSTRUCTIONS FOR MULTIPLE FUND ACCOUNTING CITATIONS

In making disbursements from multiple appropriations under this contract, the Disbursing Officer shall make disbursements of appropriations on a first-in, first-out basis, except that Appropriation ACR: AB and AE shall be used only in connection with Exhibit Line Item A002."

9. Add the following new Sections H, I, and J to the Contract Schedule:

"SECTION H - MATERIAL INSPECTION AND RECEIVING REPORT (1969 DEC)

At the time of each delivery of supplies or services under this contract, the contractor shall prepare and furnish to the Government a Material Inspection and Receiving Report in the manner and to the extent required by ASPR Appendix I, Material Inspection and Receiving Report. Unless otherwise provided in the contract, the point of final inspection and acceptance is the Scientific Officer designated herein.

	Number of Copies	
	Unclassified	Classified
Contracting Officer	1	1
Contracting Branch Office	1	1
Contracting Officer	1	1
Naval Research Laboratory		
Washington, D. C. 20390		
Library, Code 2029 (ONRL)	6	0
Naval Research Laboratory		
Washington, D.C. 20390		
Technical Information Division	6	1
Documentation Center, Building 5,		
Naval Station, Alexandria, Virginia 22314	20	20
Additional copies to be Distributed in accordance		
with instructions furnished by the Scientific		
Officer	65	65.

With the approval of the Scientific Officer, reprints of published articles may be included as technical reports. In the technical reports (including reprints) prepared hereunder, there shall be affixed a face page which shall contain a statement that "reproduction in whole or in part is permitted for any purpose of the United States Government," and a statement that the research was sponsored by the Office of Naval Research, including the ONR Contract Number and the ONR Contract Priority Identification number (NR-, Reqn., etc.). Where reports based upon research prepared under this contract are published in scientific and technical journals or in news releases are issued with regard to the work performed under this contract, there shall be included in such publications and news releases an appropriate statement acknowledging that the research being reported was accomplished with the support of the Office of Naval Research.

The Contractor shall include a completed "Document Control Data -- R&D" form (DD FORM 1, 1-64) as the first page of each copy of the technical report prepared under this contract. The form contains instructions for preparation. The cognizant Government Contract Administrator will provide assistance to the Contractor in obtaining the required forms. Administrative type reports, managerial (status) reports, and reprints submitted as technical reports are excluded from this requirement.

Unless otherwise authorized in writing by the Contracting Officer, reports prepared hereunder shall be reproduced only by duplicating processes and shall not exceed 5,000 production units of any page or a total of 25,000 production units of a single-page report. A production unit means one sheet, size 8 x 10 $\frac{1}{2}$ ", one side only, one color. Technical reports are subject to further duplication by the Government through photographic processes. This requirement will be observed during preparation and distribution of the reports. Specifically, (i) reproduced text material will be in the form of black characters on white opaque paper; (ii) half-tones will be kept to an amount minimum consistent with the communication of scientific and technical information; black-and-white linework is preferred; linework will be sharp and clear, of uniform density, and reproduced on white opaque paper; and (iii) material presented in the form of charts, tables or graphs will appear in a final reproduced size large enough to be clearly legible. Graph coordinate rulings or grid lines will be spaced as far apart as practicable. Reprints of published technical articles are not within

CONTRACT NUMBER: N00014-69-C-0181
MODIFICATION NUMBER: P00004

7. Add the following new Section G of the Schedule:

"SECTION G - PAYMENT INSTRUCTIONS FOR MULTIPLE FUND ACCOUNTING CITATIONS"

"In making disbursements from multiple appropriations under this contract, the disbursing Officer shall make disbursements of appropriations on a first-in, first-out basis except that Appropriation ACR: AD shall be used only in connection with Exhibit 1, ACO2."

This modification increases the total price of Contract N00014-69-C-0181 by \$10,000.00 which increase is chargeable against the Appropriation set forth on Page 1, hereinafter.

CONTRACT NUMBER: N00014-69-C-0001
 CONTRACT EXHIBIT: A
 CONTRACT LINE ITEM: 0001
 DATE: 15 November 1970

Item No. Supplies/Services

A001 The Contractor shall furnish the necessary personnel and facilities for the study in accordance with such instructions as may be issued by the Scientific Officer or his authorized representative within the scope of this contract, for study the effects of exposure to radio frequency energy and ionized radiation on performance.

In accordance with the provisions of Section D and E of the Schedule, the Contractor is required to submit the following reports:

	<u>Type of Report</u>	<u>Due Date</u>	<u>Amount</u>	<u>AOB</u>
A001AA	Status Reports Covering Subline Items 1AA through 1AJ	From 15 February 1969 Through 15 December 1970	\$38,120.00	AA a.
A001AB	Status Report	15 February 1971	\$ 3,490.00	AB
A001AC	Status Report	15 April 1971	\$ 3,545.00	AC
A001AD	Status Report	15 June 1971	\$ 3,545.00	AC
A001AE	Status Report	15 August 1971	\$ 3,545.00	AC
A001AF	Status Report	15 October 1971	\$ 3,545.00	AC
A001AG	Status Report	15 December 1971	\$ 3,545.00	AC
A001AH	Final Report	Due Not Later Than 14 April 1972	\$ 3,547.00	AC

A002 The Contractor shall initiate and complete an analytical review of unique sensory systems which selected animals use in obtaining information about objects in their environments. The review is designed to provide information such as: what is the nature of the mechanism; does the system have potential useful application in development of a technique for classifying an object (man, mine, etc.) in the water or on the bottom; can the system be modeled; do we have all the necessary data for modeling; if not identify data requirements; what are possible limitations; and what improvements might make the system more useful in classifying objects in water.

In accordance with the provisions of Section D and E of the Schedule, the Contractor is required to submit the following reports:

	<u>Type of Report</u>	<u>Due Date</u>	<u>Amount</u>	<u>AOB</u>
A002AA	Status Report	31 January 1971	\$7,581.00	AB
A002AB	Status Report	15 April 1971	\$7,581.00	AB
A002AC	Status Report	30 June 1971	\$7,581.00	AE
A002AD	Final Report	Due Not Later Than 31 October 1971	\$7,583.00	AD.

INDIVIDUAL PROCUREMENT ACT! REPORT			REPORT CONT			SYMBOL NAVMAT 4200-2	
1A. REPORT NO. (Current)	1B.	1C. REPORT NO. (Previous)	2. CONTRACT NO.		(Army only)		(Army only)
0072-70		0309-70	A. Dept.	B. Activity	C. FY.	D. CMD	E. Serial No. F. RO
			N	00014	69		C-0181
Item 3 Code	3. CORRECTION OF PRIOR DD FORM 350 Number			Item(s)	4. MOD. NO. AND OTHER IDENT.		
	1. Corrected entry				T.O. MOD		
	2. Reversing entry				P00003 P003		
Item 5 Code	5. PURCHASING OFFICE AND MAILING ADDRESS						
0214	Office of Naval Research, Procurement Services, Arlington, Virginia 22217						
Item 5A Code	5A. SOUTHEAST ASIA (Actions of \$200,000 or more)						
	1. In support of SEA 2. Not in support of SEA						
Item 6 Code	6. CONTRACTOR IDENTIFICATION						
709653	Company Name: Randomline, Inc.						
	Division Name (if any):						
	Number and Street: Old York & Moreland Roads						
	City and State or Country: Willow Grove, Pennsylvania 19090						
Item 7 Code	7. PRINCIPAL PLACE OF PERFORMANCE (City and State or Country)					7A.	7B.
12 39	SAME						
Item 7C Code	7C. MULTI-YEAR PROCUREMENT						
G	A. First year B. Second or subsequent year C. Not a multi-year procurement						
Item 8 Code	8. SUBJECT TO WALSH-HEALEY OR SERVICE CONTRACT ACT						
D	A. Walsh-Healey Act, Manufacturer B. Walsh-Healey Act, Regular Dealer						
	C. Service Contract Act D. Not subject to Walsh-Healey or Service Contract Act						
Item 9 Code	9. LABOR SURPLUS AREA						
5	1. Labor Surplus Area—No preference 2. Labor Surplus Area—Set Aside preference 3. Labor Surplus Area—Tie bid preference 4. Labor Surplus Area/Concern individually certified by Dept. of Labor 5. Not a Labor Surplus Area						
10A. FSC OR SV CODE	10B. SYSTEM OR EQUIPMENT CODE	10C. DD CLAIMANT PROG. NO.	11. DESCRIPTION OF COMMODITY OR SERVICE				
A1M1	000	S-1	Behavioral - Social Sciences				
Item 12 Code	12. COORDINATED PROCUREMENT						
8	1. Procurement Agreement 2. (Reserved - Do not use) 3. GSA Supply Schedule (Enter Code 1 in Item 15)						
	4. (Reserved - Do not use) 5. Single Department Procurement 6. Defense Supply Agency 7. Outside U.S. 8. Other						
Item 13 Code	13. SYNOPSIS OF PROPOSED PROCUREMENT						
A	A. Synopsized per ASPR 1-1003.9 E. Not Synopsized; Original Estimate under \$10,000 Not synopsized per ASPR 1-1003.1 Exception: 1 2 3 4 5 6 7 8 9						

DD

FORM 350

10/1/70

10/1/70

10/1/70

10/1/70

10/1/70

10/1/70

10/1/70

10/1/70

10/1/70

10/1/70

10/1/70

10/1/70

10/1/70

10/1/70

10/1/70

ONR CONTRACT DISTRIBUTION LIST
NAVS0 4330/10 (REV. 1-70)

DEPARTMENT OF THE NAVY
OFFICE OF NAVAL RESEARCH
WASHINGTON, D.C. 20360

CONTRACT NO.	MODIFICATION NO.	DOCUMENT DATE	DISTRIBUTION DATE
69-C-0181	P003	Aug 5, 1970	AUG 24 1970

Executed copies of the attached contract document have been forwarded by the Office of Naval Research to the principal participants (identified on this list by asterisk); other copies have been forwarded to interested activities as indicated below. Consistently, any activity issuing a modification to the basic contract should supply copies to all original recipients.

ACTIVITY	COPY DISTRIBUTION		ACTIVITY	COPY DISTRIBUTION		ACTIVITY	COPY DISTRIBUTION	
	NORMAL REQ'M'T	THIS CONTRACT		NORMAL REQ'M'T	THIS CONTRACT		NORMAL REQ'M'T	THIS CONTRACT
* CONTRACTOR	1	✓	FIELD ADMINISTRATION:			DEFENSE CONTRACT AUDIT AGENCY REGIONAL OFFICE:		
* PCO, ONR WASHINGTON	1	✓	DIR., ONR BRANCH OFFICE BOSTON	1	X	BOSTON	1	
* U.S. NAVY FINANCE CENTER CLEVELAND, OHIO	1	✓	DIR., ONR BRANCH OFFICE CHICAGO	3		NEW YORK	1	
* ADMINISTRATIVE CONTRACTING OFFICER	1		DIR., ONR BRANCH OFFICE PASADENA	3		PHILADELPHIA	1	
	1		ONR, CASEA 2110 G ST. NW. WASH. D.C.	3		ATLANTA	1	
			ONR RESIDENT REP:	3		CHICAGO	1	
COMPTROLLER OF FUNDING ACTIVITY, HEADQUARTERS, WASHINGTON, D.C.:			DCAS:			LOS ANGELES	1	
NAVAL AIR SYSTEMS COMMAND	1		REGIONAL Philadelphia, Pa. DISTRICT	6	X	SAN FRANCISCO	1	
NAVAL ORDNANCE SYSTEMS COMMAND	1		OFFICE	6		ONR - DEPARTMENTAL:		
NAVAL SHIPS SYSTEMS COMMAND	1			6		CODE (454A)	1	X
NAVAL ELECTRONICS SYSTEMS COMMAND	1		DDO PLANT REPRESENTATIVE			COUNSEL, CODE 106	1	X
NAVAL SUPPLY SYSTEMS COMMAND	2			6		PATENTS, CODE 315	1	X
NAVAL FACILITIES ENGINEERING COMMAND	1					SCIENTIFIC INFO. 400B.1	1	X
BUREAU OF MEDICINE AND SURGERY	2		DISBURSING, NAVY REGIONAL FINANCE CENTER:			ACCOUNTING, CODE 511	1	
BUREAU OF NAVAL PERSONNEL	2		3RD NAVAL DISTRICT BROOKLYN, N.Y.	1		PROCUREMENT SERVICES, CODE 603	1	
NAVAL SHIP RESEARCH AND DEVELOPMENT CENTER	5		4TH NAVAL DISTRICT PHILADELPHIA, PENNA.	1		PROCUREMENT SERVICES, CODE 626	1	
NAVAL RESEARCH LABORATORY	5		5TH NAVAL DISTRICT NORFOLK, VA.	1		OTHER:		
SPECIAL PROJECTS OFFICE MAIN NAVY BLDG.	1		9TH NAVAL DISTRICT GREAT LAKES, ILL.	1		NAVAL MATERIAL COMMAND HEADQUARTERS, INSURANCE BRANCH, WASH., D.C.	1	
ARMY (Via ONR WASH. Code 511)	10		11TH NAVAL DISTRICT SAN DIEGO, CALIF.	1				
AIR FORCE (Via ONR WASH. Code 511)	10		12TH NAVAL DISTRICT OAKLAND, CALIF.	1				
ADVANCED RESEARCH PROJECTS AGENCY, PENTAGON	2		14TH NAVAL DISTRICT HAWAII	1				
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	1		U.S. NAVY REGIONAL FINANCE CENTER, WASH., D.C.	1				
CNO (OP)	3							
MARINE CORPS	3							

CONTRACTOR: RANDOMLINE, INC.

CONTRACT NUMBER: N00014-69-C-0181

Date: 15 Jul 70

Code: 616

MODIFICATION NO: P003

The following information should be forwarded to the Administering Office:

(1) Clearance Memorandum dated 14 July 1970

(2) Other (indicate) Modification P003

ROUTING (CODE NO.)	PUR- POSE	RECEIVED	RELEASED	COMMENTS (Initial and date)
		DATE INITIALS	DATE INITIALS	
X616				
616		7/15		
X610A		7-15	9	
610A				
610		7/15		Approved 203 received
106		7/16/70		Beh
610A		Recorded:	Typed by: ed 7/23	Read by: JMM
		In: 7-20	Proofed by: B. 7/29	
		Out: 8/15		
622A				Attach to this modification: C(P)-October 1969 General Provs with Patent Rights pages 25 thru 29
				DD 254 attached
600				
622A				

AUG 05 1970

STANDARD FORM 30, JULY 1966 GENERAL SERVICES ADMINISTRATION FED. PROC. REG. (41 CFR) 1-16.101		AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT						PAGE 1	OF 1																					
1. AMENDMENT/MODIFICATION NO. P003		2. EFFECTIVE DATE		3. REQUISITION/PURCHASE REQUEST NO. NR 144-246/5-27-70 454		4. PROJECT NO. (If applicable) N. A.																								
5. ISSUED BY Procuring Contracting Officer Office of Naval Research Department of the Navy Washington, D.C. 20368 Arlington, Virginia 22217		CODE N00014		6. ADMINISTERED BY (If other than block 5) Commander, Defense Contract Administration Services Region Post Office Box 7478 Philadelphia, Pennsylvania 19101			CODE S3910A																							
7. CONTRACTOR NAME AND ADDRESS Randomline, Inc. Old York and Moreland Roads Willow Grove, Pennsylvania 19090		CODE 709653		FACILITY CODE 39		8. <input type="checkbox"/> AMENDMENT OF SOLICITATION NO. N. A. DATED _____ (See block 9) <input checked="" type="checkbox"/> MODIFICATION OF CONTRACT/ORDER N00014-69-C-0181 NO. _____ DATED 69 Feb 15 (See block 11)																								
9. THIS BLOCK APPLIES ONLY TO AMENDMENTS OF SOLICITATIONS (N. A.) <input type="checkbox"/> The above numbered solicitation is amended as set forth in block 12. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended, <input type="checkbox"/> is not extended. Offerors must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation, or as amended, by one of the following methods: (a) By signing and returning _____ copies of this amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE ISSUING OFFICE PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If, by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided such telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.																														
<table border="1" style="width:100%; border-collapse: collapse; font-size: x-small;"> <thead> <tr> <th>10.</th> <th>APPROPRIATION SYMBOL AND SUBHEAD</th> <th>OBJ. CLASS</th> <th>BUREAU CONTROL NO.</th> <th>SUB-ALLOT.</th> <th>AUTHOR'S ACCTG. ACT.</th> <th>TRANS. TYPE</th> <th>PROPERTY ACCTG. ACT.</th> <th>COUNTRY</th> <th>COST CODE</th> <th>AMOUNT</th> </tr> </thead> <tbody> <tr> <td></td> <td>17X1319.1411</td> <td>025</td> <td>12501</td> <td>0</td> <td>000014</td> <td>2B</td> <td>000000</td> <td>-</td> <td>000000001K54</td> <td>\$21,272.00</td> </tr> </tbody> </table>									10.	APPROPRIATION SYMBOL AND SUBHEAD	OBJ. CLASS	BUREAU CONTROL NO.	SUB-ALLOT.	AUTHOR'S ACCTG. ACT.	TRANS. TYPE	PROPERTY ACCTG. ACT.	COUNTRY	COST CODE	AMOUNT		17X1319.1411	025	12501	0	000014	2B	000000	-	000000001K54	\$21,272.00
10.	APPROPRIATION SYMBOL AND SUBHEAD	OBJ. CLASS	BUREAU CONTROL NO.	SUB-ALLOT.	AUTHOR'S ACCTG. ACT.	TRANS. TYPE	PROPERTY ACCTG. ACT.	COUNTRY	COST CODE	AMOUNT																				
	17X1319.1411	025	12501	0	000014	2B	000000	-	000000001K54	\$21,272.00																				
11. THIS BLOCK APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS (a) <input type="checkbox"/> This Change Order is issued pursuant to _____ The Changes set forth in block 12 are made to the above numbered contract/order. (b) <input type="checkbox"/> The above numbered contract/order is modified to reflect the administrative changes (such as changes in paying office, appropriation data, etc.) set forth in block 12. (c) <input checked="" type="checkbox"/> This Supplemental Agreement is entered into pursuant to authority of 10 U.S.C. 2304 (a) (1) It modifies the above numbered contract as set forth in block 12.																														
12. DESCRIPTION OF AMENDMENT/MODIFICATION <p>WHEREAS, Contract N00014-69-C-0181 was entered into as of 15 February 1969 between the Government and Randomline, Inc., for the purpose of providing that the Contractor perform a program of research; and</p> <p>WHEREAS, it is desired that certain of the clauses in the General Provisions of said contract be revised to conform to applicable statutory and departmental requirements; and</p> <p>WHEREAS, it is further desired that the said revisions be reflected in a single document, without making any substantive changes in existing rights and obligations of the Government and the Contractor under said contract.</p> <p>NOW, THEREFORE, in consideration of the foregoing, said Contract N00014-69-C-0181, as modified, is hereby further modified as set forth in the pages attached hereto.</p>																														
COMPLETION DATE: 14 February 1972. Except as provided herein, all terms and conditions of the document referenced in block 8, as heretofore changed, remain unchanged and in full force and effect.																														
13. <input type="checkbox"/> CONTRACTOR/OFFEROR IS NOT REQUIRED TO SIGN THIS DOCUMENT <input checked="" type="checkbox"/> CONTRACTOR/OFFEROR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN 3 COPIES TO ISSUING OFFICE																														
14. NAME OF CONTRACTOR/OFFEROR BY _____ (Signature of person authorized to sign)					17. UNITED STATES OF AMERICA BY _____ (Signature of Contracting Officer)																									
15. NAME AND TITLE OF SIGNER (Type or print)			16. DATE SIGNED		18. NAME OF CONTRACTING OFFICER (Type or print)			19. DATE SIGNED																						

CONTRACT NUMBER: N00014-69-C-0181
MODIFICATION NUMBER: P003

1. Effective as of the date of this modification, the General Provisions entitled "G(P) - October 1969," pages 1 through 29, are hereby substituted for the General Provisions entitled "G(P) - March 1967," pages 1 through 32, with "Alterations" thereto, and all subsequent modifications thereto issued prior to this Modification Number P003.

2. It is the intention of the parties hereto that all references in the Schedule issued under this contract to any clause or clauses of the contract shall be deemed to refer to the corresponding or like clause or clauses of the General Provisions attached hereto.

3. Further, it is the desire of the Government and the Contractor that additional research on behavioral biophysics be performed. To accomplish this, there are hereby provided an increase in the total price and an extension in the period of performance of Contract N00014-69-C-0181. In consideration of the foregoing, said contract, as modified, is hereby further modified as follows:

(a) On the face page of the contract, in Block Number 21, delete the figure "\$41,610.00," and substitute in lieu thereof the figure "\$62,882.00."

(b) Effective as of the date of this modification, delete the first sentence of Section A of the Schedule in its entirety and substitute in lieu thereof the following:

"This Schedule is established under, and constitutes a part of, Contract N00014-69-C-0181, consisting of: face page; Schedule; and General Provisions pages 1 through 29, identified as 'G(P) - October 1969.'"

(c) Effective as of the date of this modification, Section B of the Schedule shall read as follows:

"SECTION B - SPECIFICATION OF WORK"

<u>"Line Item No."</u>	<u>Supplies/Services</u>	<u>Amount</u>
1	The Contractor shall furnish the necessary personnel and facilities for and, in accordance with such instructions as may be issued by the Scientific Officer or his authorized representative within the scope of this contract, shall study the effects of exposure to radio frequency energy and ionized air on performance.	

EAM TITLE: BEHAVIORAL BIOPHYSICS

CONTRACT NUMBER: N00014-69-C-0181
MODIFICATION NUMBER: P003

<u>Line Item No.</u>	<u>Supplies/Services</u>	<u>Amount</u>
1AA	- Reports through 15 August 1969	\$10,200.00
1AB	- Report of 15 October 1969	3,490.00
1AC	- Report of 15 December 1969	3,490.00
1AD	- Report of 15 February 1970	3,490.00
1AE	- Report of 15 April 1970	3,490.00
1AF	- Report of 15 June 1970	3,490.00
1AG	- Report of 15 August 1970	3,490.00
1AH	- Report - Due Not Later Than 15 October 1970	3,490.00
1AJ	- Report - Due Not Later Than 15 December 1970	3,490.00
1AK	- Report - Due Not Later Than 15 February 1971	3,490.00
1AL	- Report - Due Not Later Than 15 April 1971	3,545.00
1AM	- Report - Due Not Later Than 15 June 1971	3,545.00
1AN	- Report - Due Not Later Than 15 August 1971	3,545.00
1AP	- Report - Due Not Later Than 15 October 1971	3,545.00
1AQ	- Report - Due Not Later Than 15 December 1971	3,545.00
1AR	- Final Report - Due Not Later Than 14 April 1972	3,547.00
	Total	\$62,882.00

The above subline items are to be submitted in accordance with Sections E and F of the Schedule."

(d) Delete Section C of the Schedule in its entirety and substitute in lieu thereof the following:

"SECTION C - PERIOD OF PERFORMANCE

"The performance of work hereunder shall commence on 15 February 1969, and shall be completed on 14 February 1972." *WU*

This modification increases the total price of Contract N00014-69-C-0181 by \$21,272.00, which increase is chargeable against the Appropriation set forth on Page 1, hereof.

Donald P. Woodward
SCIENTIFIC OFFICER

7/15/70
DATE

Joseph Richman
JOSEPH RICHMAN
Contract Specialist

DEPARTMENT OF DEFENSE CONTRACT SECURITY CLASSIFICATION SPECIFICATION <small>(Complete classified items by separate correspondence)</small>			1. THE REQUIREMENTS OF THE DOD INDUSTRIAL SECURITY MANUAL APPLY TO PERFORMANCE OF THIS CONTRACT. FACILITY SECURITY CLEARANCE REQUIRED FOR CONTRACT PERFORMANCE OR FOR ACCESS TO CLASSIFIED INFORMATION IS <u>SECRET</u>		
2. THIS SPECIFICATION IS FOR:		3. CONTRACT NUMBER OR OTHER IDENTIFICATION NUMBER <small>(Prime contracts must be shown for all subcontracts)</small>		DATE TO BE COMPLETED <small>(Estimated)</small>	4. THIS SPECIFICATION IS: <small>(See note below)</small>
X	a. PRIME CONTRACT	a. PRIME <u>N00014-69-C-0181</u>			X
	b. SUBCONTRACT <small>(Use Item 8 to identify further subcontracting)</small>	b. FIRST TIER SUBCONTRACT			a. ORIGINAL
	c. INVITATION TO BID OR REQUEST FOR PROPOSAL	c. INVITATION FOR BID, REQUEST FOR PROPOSAL, OR REQUEST FOR QUOTE			b. REVISED <small>(Supersedes all previous specifications)</small>
5. IF THIS IS A FOLLOW-ON CONTRACT, ENTER PRECEDING CONTRACT NUMBER AND DATE COMPLETED <input type="checkbox"/> DOES NOT APPLY					
CONTRACT NUMBER <u>N00014-69-C-0181</u>				DATE COMPLETED	
6a. NAME AND ADDRESS OF PRIME CONTRACTOR <small>(Include ZIP Code)</small> Randomline, Inc. Old York & Moreland Roads Willow Grove, Pennsylvania 19010			b. NAME AND ADDRESS OF COGNIZANT SECURITY OFFICE <small>(Include ZIP Code)</small> <u>Commander, DCA S R.</u> <u>Ph.</u> <u>N/A</u> <u>Block 6</u>		
7a. NAME AND ADDRESS OF FIRST TIER SUBCONTRACTOR <small>(If applicable)</small> <small>(Include ZIP Code)</small> N/A <small>(Use Item 8 to identify further subcontracting)</small>			b. NAME AND ADDRESS OF COGNIZANT SECURITY OFFICE <small>(Include ZIP Code)</small> N/A		
8. SUBCONTRACTING BEYOND FIRST TIER <small>(as appropriate)</small> N/A					
9a. GENERAL IDENTIFICATION OF THE PROCUREMENT FOR WHICH THIS SPECIFICATION APPLIES The effects of electromagnetic energy upon the nervous systems and on behavior.					
b. CONTRACT PRESCRIBES SECURITY REQUIREMENTS WHICH ARE ADDITIONAL TO THOSE PRESCRIBED IN DD FORM 441 AND THE ISM <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
10. CONTRACT PERFORMANCE WILL REQUIRE			YES	NO	REMARKS
GRAPHIC ARTS SERVICES			X		
ACCESS TO CONTROLLED AREAS OR CLASSIFIED INFORMATION ONLY			X		
MANUFACTURE OF CLASSIFIED HARDWARE				X	
GENERATION, RECEIPT, OR CUSTODY OF CLASSIFIED DOCUMENTS OR OTHER MATERIAL			X		
ACCESS TO RESTRICTED DATA				X	
ACCESS TO CRYPTOGRAPHIC INFORMATION				X	
ACCESS TO COMMUNICATION ANALYSIS INFORMATION				X	
DEFENSE DOCUMENTATION CENTER OR DEFENSE INFORMATION ANALYSIS CENTER SERVICES MAY BE REQUESTED <small>(If yes, see paragraph T, app I, Industrial Security Manual.)</small>			X		
11. REFER ALL QUESTIONS PERTAINING TO CONTRACT SECURITY CLASSIFICATION SPECIFICATION TO THE OFFICIAL NAMED BELOW <small>(NORMALLY, thru ACO (Item 14b); EMERGENCY, direct with written record of inquiry and response to ACO) (thru prime contractor for subcontracts)</small>					
a. PROGRAM/PROJECT MANAGER OR ACTIVITY <small>(Name, Title, and Organization)</small> <u>GILBERT C. TOLHURST, Director</u>			b. ADDRESS, TELEPHONE NUMBER AND OFFICE SYMBOL <small>(Include ZIP Code)</small> <u>Physiological Psychology Programs</u> <u>Office of Naval Research</u> <u>OX6-1056</u>		
NOTE: Original Specification (Item 4a) is authority for contractors to mark classified information. Revised and Final Specifications (Items 4b and c) are authority for contractors to remark the regraded classified information. Such actions by contractors shall be taken in accordance with the provisions of the Industrial Security Manual.					

ONR CONTRACT DISTRIBUTION LIST
NAVS0 4330/10 (REV. 9-68)

DEPARTMENT OF THE NAVY
OFFICE OF NAVAL RESEARCH
WASHINGTON, D.C. 20360

CONTRACT NO. 69-C-0181	MODIFICATION NO. P003	DOCUMENT DATE FEB. 3, 1970	DISTRIBUTION DATE FEB. 3, 1970
----------------------------------	---------------------------------	--------------------------------------	--

Executed copies of the attached contract document have been forwarded by the Office of Naval Research to the principal participants (identified on this list by asterisk); other copies have been forwarded to interested activities as indicated below. Consistently, any activity issuing a modification to the basic contract should supply copies to all original recipients.

ACTIVITY	COPY DISTRIBUTION		ACTIVITY	COPY DISTRIBUTION		ACTIVITY	COPY DISTRIBUTION	
	NORMAL REQ'M'T	THIS CON-TRACT		NORMAL REQ'M'T	THIS CON-TRACT		NORMAL REQ'M'T	THIS CON-TRACT
* CONTRACTOR	1	✓	FIELD ADMINISTRATION:			DEFENSE CONTRACT AUDIT AGENCY REGIONAL OFFICE:		
* PCO, ONR WASHINGTON	1	✓	DIR., ONR BRANCH OFFICE BOSTON	1	X	BOSTON	1	
* U.S. NAVY FINANCE CENTER CLEVELAND, OHIO	1	✓	DIR., ONR BRANCH OFFICE CHICAGO	3		NEW YORK	1	
* ADMINISTRATIVE CONTRACTING OFFICER			DIR., ONR BRANCH OFFICE PASADENA	3		PHILADELPHIA	1	
	1		ONR, CASEA 2110 G ST. NW, WASH. D.C.	3		ATLANTA	1	
COMPTROLLER OF FUNDING ACTIVITY, HEADQUARTERS, WASHINGTON, D.C.:			ONR RESIDENT REP:	3		CHICAGO	1	
NAVAL AIR SYSTEMS COMMAND	1		DCAS:			LOS ANGELES	1	
NAVAL ORDNANCE SYSTEMS COMMAND	1		REGION Philadelphia, Pa.	6	X	SAN FRANCISCO	1	
NAVAL SHIPS SYSTEMS COMMAND	1		DISTRICT	6		ONR - DEPARTMENTAL:		
NAVAL ELECTRONICS SYSTEMS COMMAND	1		OFFICE	6		CODE (454A)	1	X
NAVAL SUPPLY SYSTEMS COMMAND	2		DOD PLANT REPRESENTATIVE			COUNSEL, CODE 106	1	X
NAVAL FACILITIES ENGINEERING COMMAND	1					PATENTS, CODE 315	1	X
BUREAU OF MEDICINE AND SURGERY	1			6		SCIENTIFIC INFO. 400B.1	1	X
BUREAU OF NAVAL PERSONNEL	2		DISBURSING; NAVY REGIONAL FINANCE CENTER:			ACCOUNTING, CODE 511	1	
NAVAL SHIP RESEARCH AND DEVELOPMENT CENTER	5		3RD NAVAL DISTRICT BROOKLYN, N.Y.	1		PROCUREMENT SERVICES, CODE 603	1	
NAVAL RESEARCH LABORATORY	5		4TH NAVAL DISTRICT PHILADELPHIA, PENNA.	1		PROCUREMENT SERVICES, CODE 626	1	X
SPECIAL PROJECTS OFFICE MAIN NAVY BLDG.	1		5TH NAVAL DISTRICT NORFOLK, VA.	1		OTHER:		
ARMY (Via ONR WASH. Code 511)	10		9TH NAVAL DISTRICT GREAT LAKES, ILL.	1		NAVAL MATERIAL COMMAND HEADQUARTERS, INSURANCE BRANCH, WASH., D.C.	1	
AIR FORCE (Via ONR WASH. Code 511)	10		11TH NAVAL DISTRICT SAN DIEGO, CALIF.	1		INFORMATION COPY DCRP-CMC THOMAS J. LUGLIO DCASR-Philadelphia		X
ADVANCED RESEARCH PROJECTS AGENCY, PENTAGON	2		12TH NAVAL DISTRICT OAKLAND, CALIF.	1				
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	1		14TH NAVAL DISTRICT HAWAII	1				
'OP')	3		U.S. NAVY FINANCE CENTER MUNITIONS BLDG. WASH. D.C.	1				
CORPS	3							

1/30

CONTRACTOR: RANDOMLINE, INC.

Date: 1-28-70

CONTRACT NO: N00014-69-C-0181

Code: 616K

MODIFICATION NO: P002

The following information should be forwarded to the Administering Office:

- (1) Clearance Memorandum dated 28 January 1970
- (2) Other (indicate) MOD. P002

ROUTING (CODE NO.)	PUR- POSE	RECEIVED	RELEASED	COMMENTS (Initial and date)
		DATE INITIALS	DATE INITIALS	
612				
616				
616K		1/28/70 <i>LaD</i>		
610A		1/28/70 <i>Bl</i>		
610		1/28/70 <i>LaD</i>		
626		1/28/70 <i>Bl</i>		
106		2/2/70 <i>Bl</i>		
610A		Recorded:	Typed by: <i>2/3/70 go</i>	Read by: <i>isc</i>
		In:	Proofed by: <i>Bw</i>	<i>2/3/70</i>
		Out:		
622A			When ready distribution send 1 cty to 626A	

FEB 03 1970

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

PAGE 1 OF 1

1. AMENDMENT/MODIFICATION NO. <u>P002</u>		2. EFFECTIVE DATE <u>currently</u>	3. REQUISITION/PURCHASE REQUEST NO. <u>NR 144-246(42)12-22-69</u>	4. PROJECT NO. (If applicable) <u>Code 454</u>
5. ISSUED BY Procuring Contracting Officer Office of Naval Research Department of the Navy Washington, D. C. 20360		CODE <u>00014</u>	6. ADMINISTERED BY (If other than block 5) Commander, DCASR, Philadelphia P.O. Box 7478 Philadelphia, Pennsylvania 19101	
7. CONTRACTOR NAME AND ADDRESS Randomline, Inc. York & Moreland Roads Willow Grove, Pennsylvania 19190		CODE <u>709653</u>	FACILITY CODE <u>1955 39</u>	8. <input type="checkbox"/> AMENDMENT OF SOLICITATION NO. <u>N. A.</u> DATED _____ (See block 9) <input checked="" type="checkbox"/> MODIFICATION OF CONTRACT/ORDER NO. <u>N00014-69-C-0181</u> DATED <u>69 Feb. 15</u> (See block 11)

9. THIS BLOCK APPLIES ONLY TO AMENDMENTS OF SOLICITATIONS (N. A.)

☐ The above numbered solicitation is amended as set forth in block 12. The hour and date specified for receipt of Offers ☐ is extended, ☐ is not extended. Offerors must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation, or as amended, by one of the following methods:

(a) By signing and returning _____ copies of this amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE ISSUING OFFICE PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If, by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided such telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

10. APPROPRIATION SYMBOL AND SUBHEAD	OBJ. CLASS	BUREAU CONTROL NO.	SUB-ALLOT.	AUTHOR'N ACCTG. ACT.	TRANS. TYPE	PROPERTY ACCTG. ACT.	COUNTRY	COST CODE	AMOUNT
NOT APPLICABLE									

11. THIS BLOCK APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS

(a) ☐ This Change Order is issued pursuant to _____
The Changes set forth in block 12 are made to the above numbered contract/order.

(b) ☐ The above numbered contract/order is modified to reflect the administrative changes (such as changes in paying office, appropriation data, etc.) set forth in block 12.

(c) ☒ This Supplemental Agreement is entered into pursuant to authority of 10 U.S.C. 2304 (a) (11)
It modifies the above numbered contract as set forth in block 12.

12. DESCRIPTION OF AMENDMENT/MODIFICATION

In order to aid the research being conducted under Contract N00014-69-C-0181 it is the desire of the Government and the Contractor that certain items of Government-Furnished Property be loaned to the Contractor. To accomplish this, said contract as modified, is hereby further modified as set forth on the attached pages and made a part hereof.

Except as provided herein, all terms and conditions of the document referenced in block 8, as heretofore changed, remain unchanged and in full force and effect.

13. <input type="checkbox"/> CONTRACTOR/OFFEROR IS NOT REQUIRED TO SIGN THIS DOCUMENT		<input checked="" type="checkbox"/> CONTRACTOR/OFFEROR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN <u>2</u> COPIES TO ISSUING OFFICE	
14. NAME OF CONTRACTOR/OFFEROR BY _____ (Signature of person authorized to sign)		17. UNITED STATES OF AMERICA BY _____ (Signature of Contracting Officer)	
15. NAME AND TITLE OF SIGNER (Type or print)	16. DATE SIGNED	18. NAME OF CONTRACTING OFFICER (Type or print)	19. DATE SIGNED

CONTRACT NO: N00014-69-C-0181
MODIFICATION NO; P002

1. Effective as of the date of this modification, add the following new Section to the Schedule:

SECTION G - GOVERNMENT-FURNISHED PROPERTY

The Government will furnish to the Contractor as Government-Furnished Property for use under this contract, the following:

<u>Item No.</u>	<u>Description</u>	<u>Cost</u>
1	Data Analysis System consisting of the following listed items incorporated into system:	-
	USN-1-0341 Camera Polaroid, Model 104	
	USN-5-0341 Computer of Average Transients, Model 1000	
	USN-7-0341 Transducer Waratham	
	USN-10-0341 Senior <i>Volt ohmmyst</i>	
	USN-13-0341 Audio Generator, RCA Model WA-44-C	
	USN-17-0341 Electrometer, Keithly 610A	
	USN-20-0341 Power Supply, P-S-12/24	
	USN-25-0341 Culmotive Recorder, Gerbrand	
	USN-33-0341 Scope Camera, Tektronix C-12	
	USN-36-0341 Stop Watch	
	USN-49-0341 Camera	
	USN-53-0341 Dynograph, Beckman Model 542, S/N 297	
	USN-54-0341 Biological Amplifier, Model DS2C	
	USN-55-0341 Recorder, Esterline-Angus, Model A620A	
	USN-56-0341 Dictating Machine, IBM, S/N 513583	
	USN-57-0341 Oscilloscope, Tektronix Model 565 with (1) 2A61 and (1) 2A63 Amplifier	
	USN-63-0341 Screen Room	

(Vot ohmmyst)

CONTRACT NO: N00014-69-C-0181
MODIFICATION NO. P002

<u>Item No.</u>	<u>Description</u>	<u>Cost</u>
2	Specimen Set-up System consisting of the following items incorporated into system: USN-3-0341 Pressure Cooker USN-4-0341 Respiration Regulator USN-5-0341 Pipette Fuller, KOPF USN-11-0341 Laryngoscope USN-12-0341 Blood Pressure Gauge USN-22-0341 Motor, Part of Rat Box, Newark CMO USN-30-0341 1/2" Electric Drill, W/Stand, Craftsman USN-31-0341 Bovine Electrocautery USN-32-0341 Stereotaxic Instrument, KOPF 1204 USN-34-0341 Ministruer Micromanipulator, Model MM-3 USN-35-0341 Balance Scale, Ohaus, Model 3502 USN-38-0341 Microscope, B & L Model 313353 USN-39-0341 Pump, Cole Parameter, 7064-5 USN-42-0341 Cat Skeleton USN-43-0341 Vaporizer USN-44-0341 Electrical Drill, Osteological USN-45-0341 Ear Bars, (Part of USN-32-0341) USN-46-0341 Regulator, 305-0071-800 USN-48-0341 Bright Spot Headlight USN-58-0341 Transducer, Grass FT-03B USN-60-0341 Balance Scale, SEKO, Model 1137 USN-61-0341 Laboratory Oven, LaPine 317-85	

L. A. Dunbar

CONTRACT NO: N00014-69-C-0181
MODIFICATION NO. P002

Cost

Item No.

Description

3

Behavioral Assay System consisting of
the following items incorporated into
system:

USN-8-0341 Program Timer

TM-15K391

USN-9-0341 L Band Oscillator

Applied Microwave

USN-14-0341 Laboratory Simulator

ABL Model 104A

USN-15-0341 Photic Simulator,

ABL Model 127

USN-16-0341 Stimulus Isolator,

ABL Model 112

USN-18-0341 Power Oscillator,

Microdot 411A

USN-19-0341 Coax To Waveguide

Adaptor, Scientific Atlanta

USN-21-0341 Lo Power Terminator,

Microlab TA5MB

USN-23-0341 Coax Attenuator,

Empore AT50-10

USN-24-0341 Coax Attenuator,

Empire AT50-40

USN-26-0341 Lo-Pass Filter,

H/P Model 360A

USN-27-0341 Thermistor Mount,

H/P Model 477B

USN-29-0341 Bench Saw W/Motor

Craftsman

USN-37-0341 Programmer, Fohringer

1182M1

USN-41-0341 40 Drawer Parts Cabinet

USN-51-0341 Programmer,

Fohringer

USN-52-0341 Programmer,

Fohringer

USN-59-0341 Pellet Dispenser,

Fohringer

USN-62-0341 Horn Antenna,

Model 11-1-1

ONR CONTRACT DISTRIBUTION LIST
NAVSO 4330/10 (REV. 9-68)

DEPARTMENT OF THE NAVY
OFFICE OF NAVAL RESEARCH
WASHINGTON, D.C. 20360

CONTRACT NO. **69-C-0181**

MODIFICATION NO.

P001

DOCUMENT DATE

Sept. 8, 1969

DISTRIBUTION DATE

NOV 9 1969

Executed copies of the attached contract document have been forwarded by the Office of Naval Research to the principal participants (identified on this list by asterisk); other copies have been forwarded to interested activities as indicated below. Consistently, any activity issuing a modification to the basic contract should supply copies to all original recipients.

ACTIVITY	COPY DISTRIBUTION		ACTIVITY	COPY DISTRIBUTION		ACTIVITY	COPY DISTRIBUTION	
	NORMAL REQ'M'T	THIS CONTRACT		NORMAL REQ'M'T	THIS CONTRACT		NORMAL REQ'M'T	THIS CONTRACT
* CONTRACTOR	1	✓	FIELD ADMINISTRATION:			DEFENSE CONTRACT AUDIT AGENCY REGIONAL OFFICE:		
* PCO, ONR WASHINGTON	1	✓	DIR., ONR BRANCH OFFICE BOSTON	1	X	BOSTON	1	
* U.S. NAVY FINANCE CENTER CLEVELAND, OHIO	1	✓	DIR., ONR BRANCH OFFICE CHICAGO	3		NEW YORK	1	
* ADMINISTRATIVE CONTRACTING OFFICER			DIR., ONR BRANCH OFFICE PASADENA	3		PHILADELPHIA	1	
	1		ONR, CASEA 2110 G ST. NW. WASH. D.C.	3		ATLANTA	1	
			ONR RESIDENT REP:	3		CHICAGO	1	
COMPTROLLER OF FUNDING ACTIVITY, HEADQUARTERS, WASHINGTON, D.C.:			DCAS:			LOS ANGELES	1	
NAVAL AIR SYSTEMS COMMAND	1		REGION Philadelphia, Pa.	6	X	SAN FRANCISCO	1	
NAVAL ORDNANCE SYSTEMS COMMAND	1		DISTRICT	6		ONR - DEPARTMENTAL:		
NAVAL SHIPS SYSTEMS COMMAND	1		OFFICE	6		CODE (454A)	1	X
NAVAL ELECTRONICS SYSTEMS COMMAND	1					COUNSEL. CODE 106	1	X
NAVAL SUPPLY SYSTEMS COMMAND	2		DOD PLANT REPRESENTATIVE			PATENTS. CODE 315	1	X
NAVAL FACILITIES ENGINEERING COMMAND	1			6		SCIENTIFIC INFO. 400B.1	1	X
BUREAU OF MEDICINE AND SURGERY	1					ACCOUNTING, CODE 511	1	
BUREAU OF NAVAL PERSONNEL	2		DISBURSING; NAVY REGIONAL FINANCE CENTER:			PROCUREMENT SERVICES, CODE 603	1	
NAVAL SHIP RESEARCH AND DEVELOPMENT CENTER	5		3RD NAVAL DISTRICT BROOKLYN, N.Y.	1		PROCUREMENT SERVICES, CODE 626	1	
NAVAL RESEARCH LABORATORY	5		4TH NAVAL DISTRICT PHILADELPHIA, PENNA.	1		OTHER:		
SPECIAL PROJECTS OFFICE MAIN NAVY BLDG.	1		5TH NAVAL DISTRICT NORFOLK, VA.	1		NAVAL MATERIAL COMMAND HEADQUARTERS, INSURANCE BRANCH, WASH., D.C.	1	
ARMY (Via ONR WASH. Code 511)	10		9TH NAVAL DISTRICT GREAT LAKES, ILL.	1				
AIR FORCE (Via ONR WASH. Code 511)	10		11TH NAVAL DISTRICT SAN DIEGO, CALIF.	1				
ADVANCED RESEARCH PROJECTS AGENCY, PENTAGON	2		12TH NAVAL DISTRICT OAKLAND, CALIF.	1				
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	1		14TH NAVAL DISTRICT HAWAII	1				
CNO (OP)	3		U.S. NAVY FINANCE CENTER MUNITIONS BLDG. WASH. D.C.	1				
MARINE CORPS	3							

INDIVIDUAL PROCUREMENT ACTION REPORT				REPORT CONTROL SYMBOL				NAVMAT 4200-2	
1A. REPORT NO. (Current)		1B.		1C. REPORT NO. (Previous)		2. CONTRACT NO.		(Army only)	
0309-70				1111-69		A. Dept. B. Activity C. FY. D. CMD		E. Serial No. F. RO	
				N 00014 69				C-0181	
Item 3 Code		3. CORRECTION OF PRIOR DD FORM 350 Number				Item(s)		4. MOD. NO. AND OTHER IDENT.	
		1. Corrected entry 2. Reversing entry						T.O. MOD POOI	
Item 5 Code		5. PURCHASING OFFICE AND MAILING ADDRESS							
0214		Office of Naval Research, Procurement Services, Washington, D. C. 20360							
Item 5A Code		5A. SOUTHEAST ASIA (Actions of \$200,000 or more)							
		1. In support of SEA 0. Not in support of SEA							
Item 6 Code		6. CONTRACTOR IDENTIFICATION							
709653		Company Name: Randomline, Inc. Division Name (if any): Number and Street: Glenside Avenue and Limekiln Pike City and State or Country: Glenside, Pennsylvania 19038							
Item 7 Code		7. PRINCIPAL PLACE OF PERFORMANCE (City and State or Country)						7A. 7B.	
City State 1955 39		SAME							
Item 7C Code		7C. MULTI-YEAR PROCUREMENT							
C		A. First year B. Second or subsequent year C. Not a multi-year procurement							
Item 8 Code		8. SUBJECT TO WALSH-HEALEY OR SERVICE CONTRACT ACT							
D		A. Walsh-Healey Act, Manufacturer B. Walsh-Healey Act, Regular Dealer C. Service Contract Act D. Not subject to Walsh-Healey or Service Contract Act							
Item 9 Code		9. LABOR SURPLUS AREA							
5		1. Labor Surplus Area—No preference 3. Labor Surplus Area—Tie bid preference 5. Not a Labor Surplus Area 2. Labor Surplus Area—Set Aside preference 4. Labor Surplus Area/Concern individually certified by Dept. of Labor							
10A. FSC OR SV CODE		10B. SYSTEM OR EQUIPMENT CODE		10C. DD CLAIMANT PROG. NO.		11. DESCRIPTION OF COMMODITY OR SERVICE			
A1M1		000		S-1		Behavioral - Social Sciences			
Item 12 Code		12. COORDINATED PROCUREMENT							
8		1. Procurement Agreement 2. (Reserved - Do not use) 3. GSA Supply Schedule (Enter Code 1 in Item 15) 4. (Reserved - Do not use) 5. Single Department Procurement 6. Defense Supply Agency 7. Outside U.S. 8. Other							
Item 13 Code		13. SYNOPSIS OF PROPOSED PROCUREMENT							
A		A. Synopsized per ASPR 1-1003.9 E. Not Synopsized: Original Estimate under \$10,000 Not synopsized per ASPR 1-1003.1 Exception: 1 2 3 4 6 7 8 9							
Item 14 Code		14. KIND OF PROCUREMENT ACTION							
6		1. Initial Letter Contract 4. Order under Contract 6. Additional work 8. Change Order 2. Definitive Contract superseding Letter Contract 5. Provisioning Order 7. Funding action 9. Termination or cancellation 3. Definitive Contract (Including Notice of Award)							
Item 15 Code		15. CONTRACT PLACEMENT							
5		1. Intragovernmental (Do not fill in Items 16 thru 21) 4. Small Business restricted advertising (Fill in all items) 2. Two-step formal advertising (Do not fill in Items 17 thru 19) 5. Other negotiated (Fill in all items) 3. Other formal advertising (Do not fill in Items 17 thru 19) J. Foreign Military Sales (Do not fill in Items 16 thru 21)							
Item 16 Code		16. SMALL BUSINESS							
J		A. Not solicited C. Bid was not low J. Awarded to Small Business B. Solicited but did not bid D. Bid not accepted for other reasons K. Awarded to nonprofit institution L. Awarded for work outside U.S. and possessions							
Item 17 Code		17. NEGOTIATED UNDER 10 USC 2304(a) EXCEPTION							
11		For 10 USC 2304(a)(1), ASPR 3-201.2 Citation: Negotiation accomplished pursuant to 10 USC 2304(a), Clause No.: For 10 USC 2304(a)(10), ASPR 3-210.2 Citation:							
		1A. Labor Surplus Area or industry set-aside 2 7 12 16 10-1 10-6 10-11 10-16 1B. Unilateral Small Business set-aside 4 8 13 10-2 10-7 10-12 10-17 1C. Disaster Area set-aside 5 9 14 10-3 10-8 10-13 10-26 1E. Balance of Payments Program 6 11 15							
		Otherwise authorized by:							

DD FORM 330

FORM 330

ea 10 e

DNR INTER-OFFICE ROUTE SHEET
NAVSO 2700/44 (REV. 9-66)

8/25

CONTRACTOR RANDOLINE, INC.

Date 22 Aug 69

CONTRACT NO: N00014-69-C-0181

Code: 616

MODIFICATION NO: P001

The following information should be forwarded to the Administering Office:

(1) Clearance Memorandum dated 21 August 1969

(2) Other (Indicate) Modification P001

ROUTING (CODE NO.)	PUR- POSE	RECEIVED	RELEASED	COMMENTS (Initial and date)
		DATE	DATE	
		INITIALS	INITIALS	
612				
616		8/22	JD	
616A				
610A		8/25	KM	23
610		8/25	ann	
106		8/26/69	ann	Beh.
610A		Recorded:		Typed by: 9/6/69 JC
		In: 8/27		Read by: JC
		Out: 8/28		Proofed by: 9/8/69
622A				Attach to this modification: Standard Alterations in Contract (For C(P) - March 1967) October 1968 4 pages, plus June 1969 pages 5 and 6.
600				
622A				

SEP 1 1 1969

STANDARD FORM 30, JULY 1966 GENERAL SERVICES ADMINISTRATION FED. PROC. REG. (41 CFR) 1-16.101		AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				PAGE 1 OF				
1. AMENDMENT/MODIFICATION NO. P001		2. EFFECTIVE DATE		3. REQUISITION/PURCHASE REQUEST NO. NR 144-246/8-6-69 (454)		4. PROJECT NO. (If applicable) N. A.				
5. ISSUED BY Procuring Contracting Officer Office of Naval Research Department of the Navy Washington, D. C. 20380		CODE 00014		6. ADMINISTERED BY (If other than block 5) Commander, Defense Contract Administration Services Region Post Office Box 7478 Philadelphia, Pennsylvania 19101						
7. CONTRACTOR NAME AND ADDRESS Randomline, Inc. Glenside Avenue and Limekiln Pike Glenside, Pennsylvania 19038		CODE 709653		FACILITY CODE 1955 39		b. <input type="checkbox"/> AMENDMENT OF SOLICITATION NO. N. A. DATED _____ (See block 9) <input checked="" type="checkbox"/> MODIFICATION OF CONTRACT/ORDER NO. N00014-69-C-0181 DATED 69 Feb 15 (See block 11)				
9. THIS BLOCK APPLIES ONLY TO AMENDMENTS OF SOLICITATIONS (N. A.) <input type="checkbox"/> The above numbered solicitation is amended as set forth in block 12. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended, <input type="checkbox"/> is not extended. Offerors must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation, or as amended, by one of the following methods: (a) By signing and returning _____ copies of this amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE ISSUING OFFICE PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If, by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided such telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.										
10. APPROPRIATION SYMBOL AND SUBHEAD 17X1319.1401		OBJ. CLASS 25	BUREAU CONTROL NO. 12501	SUB- ALLOT. -	AUTHOR'S ACCTG. ACT. 14	TRANS. TYPE 2B	PROPERTY ACCTG. ACT. -	COUNTRY -	COST CODE 1K54	AMOUNT \$20,930.00
11. THIS BLOCK APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS (a) <input type="checkbox"/> This Change Order is issued pursuant to _____ The Changes set forth in block 12 are made to the above numbered contract/order. (b) <input type="checkbox"/> The above numbered contract/order is modified to reflect the administrative changes (such as changes in paying office, appropriation data, etc.) set forth in block 12. (c) <input checked="" type="checkbox"/> This Supplemental Agreement is entered into pursuant to authority of 10 U.S.C. 2304 (a) (1) It modifies the above numbered contract as set forth in block 12.										
12. DESCRIPTION OF AMENDMENT/MODIFICATION <p>It is the desire of the Government and the Contractor that additional research on behavioral biophysics be performed. To accomplish this, there are hereby provided an increase in the price of Contract N00014-69-C-0181, and an extension in the period of performance thereof.</p> <p>In consideration of the foregoing, said contract is hereby modified as set forth in the pages attached hereto and made a part hereof.</p>										
Except as provided herein, all terms and conditions of the document referenced in block 8, as heretofore changed, remain unchanged and in full force and effect.										
13. <input type="checkbox"/> CONTRACTOR/OFFEROR IS NOT REQUIRED TO SIGN THIS DOCUMENT <input checked="" type="checkbox"/> CONTRACTOR/OFFEROR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN 3 COPIES TO ISSUING OFFICE										
14. NAME OF CONTRACTOR/OFFEROR BY _____ (Signature of person authorized to sign)						17. UNITED STATES OF AMERICA BY _____ (Signature of Contracting Officer)				
15. NAME AND TITLE OF SIGNER (Type or print)				16. DATE SIGNED		18. NAME OF CONTRACTING OFFICER (Type or print)			19. DATE SIGNED	

CONTRACT NUMBER: N00014-69-C-0181
MODIFICATION NUMBER: P001

1. On the face page of the contract, in Block Number 21, delete the figure "\$20,680.00," and substitute in lieu thereof the figure "\$41,610.00."

2. Under Section B of the Schedule, delete Line Items No. 1AA through 1AF in their entirety and substitute in lieu thereof the following:

"1AA - See Section F - Through 15 August 1969	\$10,200.00
1AB - See Section F - 15 October 1969	3,490.00
1AC - See Section F - 15 December 1969	3,490.00
1AD - See Section F - 15 February 1970	3,490.00
1AE - See Section F - 15 April 1970	3,490.00
1AF - See Section F - 15 June 1970	3,490.00
1AG - See Section F - 15 August 1970	3,490.00
1AH - See Section F - 15 October 1970	3,490.00
1AI - See Section F - 15 December 1970	3,490.00
1AJ - See Section F - Upon completion of work and submission of final report	<u>3,490.00</u>
Total	\$41,610.00."

3. Delete Section C of the Schedule in its entirety and substitute in lieu thereof the following:

"SECTION C - PERIOD OF PERFORMANCE

"The performance of work hereunder shall commence on 15 February 1969, and shall be completed on 14 February 1971." *SW/a*

4. Effective as of the date of this modification, clause 42 of the contract, entitled "Patent Rights," shall read as follows:

"42. PATENT RIGHTS

"The following provisions shall apply to the work to be performed under this contract:

TYPIST: Please insert pre-printed multilith pages for (DEFERRED) (1968 SEPT) clause and number pre-printed pages in sequence beginning with 3.

5. Effective as of the date of this modification, the "ALTERATIONS IN CONTRACT (For C(P) - March 1967) of October 1968 and June 1969," which are attached hereto, are hereby substituted for the "ALTERATIONS IN CONTRACT (For C(P) - March 1967) of October 1968," which are attached to the General Provisions.

CONTRACT NUMBER: N00014-69-C-0181
MODIFICATION NUMBER: P001

This modification increases the total price of Contract N00014-69-C-0181 by \$20,930.00, which increase is chargeable against the Appropriation set forth on Page 1, hereof.

James S. Woodward / 8/22/69
SCIENTIFIC OFFICER DATE

Joseph Richman
JOSEPH RICHMAN
Contract Specialist

INDIVIDUAL PROCUREMENT ACTION REPORT			REPORT CODE		OL SYMBOL		NA/MAT 4200-2	
1A. REPORT NO. (Current)	1B.	1C. REPORT NO. (Previous)	2. CONTRACT NO.		C. FY.		D. CMD	
			A. Dept.	B. Activity				
1111-69			N	00014	69			
Item 3 Code	3. CORRECTION OF PRIOR DD FORM 350 Number				Item(s)		4. MOD. NO. AND OTHER IDENT.	
	1. Corrected entry						F.O. MOP.	
	2. Reversing entry							
Item 5 Code	5. PURCHASING OFFICE AND MAILING ADDRESS							
0214	Office of Naval Research, Procurement Services, Washington, D. C. 20360							
Item 5A Code	5A. SOUTHEAST ASIA (Actions of \$200,000 or more)							
	1. In support of SEA 0. Not in support of SEA							
Item 6 Code	6. CONTRACTOR IDENTIFICATION							
	Company Name: Randomline, Inc.							
	Division Name (if any):							
	Number and Street: Glenside Avenue & Limekiln Pike							
	City and State or Country: Glenside, Pennsylvania 19038							
Item 7 Code	7. PRINCIPAL PLACE OF PERFORMANCE (City and State or Country)						7A.	7B.
City State	39 SAME							
Item 7C Code	7C. MULTI-YEAR PROCUREMENT							
G	A. First year B. Second or subsequent year C. Not a multi-year procurement							
Item 8 Code	8. SUBJECT TO WALSH-HEALEY OR SERVICE CONTRACT ACT							
D	A. Walsh-Healey Act, Manufacturer B. Walsh-Healey Act, Regular Dealer							
	C. Service Contract Act D. Not subject to Walsh-Healey or Service Contract Act							
Item 9 Code	9. LABOR SURPLUS AREA							
5	1. Labor Surplus Area—No preference 3. Labor Surplus Area—Tie bid preference 5. Not a Labor Surplus Area							
	2. Labor Surplus Area—Set Aside preference 4. Labor Surplus Area/Concern individually certified by Dept. of Labor							
Item 10A Code	10B. SYSTEM OR EQUIPMENT CODE	10C. DD CLAIMANT PROG. NO.	11. DESCRIPTION OF COMMODITY OR SERVICE					
AIM1	000	S-1	Behavioral-Social Sciences					
Item 12 Code	12. COORDINATED PROCUREMENT							
8	1. Procurement Agreement 2. (Reserved—Do not use) 3. GSA Supply Schedule (Enter Code 1 in Item 15)							
	4. (Reserved—Do not use) 5. Single Department Procurement 6. Defense Supply Agency 7. Outside U.S. 8. Other							
Item 13 Code	13. SYNOPSIS OF PROPOSED PROCUREMENT							
A	A. Synopsized per ASPR 1-1003.9 B. Not Synopsized; Original Estimate under \$10,000 Not synopsized per ASPR 1-1003.1 Exception: 1 2 3 4 6 7 8 9							
Item 14 Code	14. KIND OF PROCUREMENT ACTION							
3	1. Initial Letter Contract 2. Definitive Contract superseding Letter Contract 3. Definitive Contract (Including Notice of Award) 4. Order under Contract 5. Provisioning Order 6. Additional work 7. Funding action 8. Change Order 9. Termination or cancellation							
Item 15 Code	15. CONTRACT PLACEMENT							
5	1. Intragovernmental (Do not fill in Items 16 thru 21) 2. Two-step formal advertising (Do not fill in Items 17 thru 19) 3. Other formal advertising (Do not fill in Items 17 thru 19) 4. Small Business restricted advertising (Fill in all items) 5. Other negotiated (Fill in all items) 6. Foreign Military Sales (Do not fill in Items 16 thru 21)							
Item 16 Code	16. SMALL BUSINESS							
J	Awarded to Large Business because Small Business: A. Not solicited B. Solicited but did not bid C. Bid was not low D. Bid not accepted for other reasons J. Awarded to Small Business K. Awarded to nonprofit institution L. Awarded for work outside U.S. and possessions							
Item 17 Code	17. NEGOTIATED UNDER 10 USC 2304(a) EXCEPTION							
	For 10 USC 2304(a)(1), ASPR 3-201.2 Citation: Negotiation accomplished pursuant to 10 USC 2304(a), Clause No.: For 10 USC 2304(a)(10), ASPR 3-210.2 Citation:							
	1A. Labor Surplus Area or industry set-aside 1B. Unilateral Small Business set-aside 1C. Disaster Area set-aside 1D. Belongs to...							

DD FORM 320

1. DATE OF REPORT		2. DATE OF ACTION		3. DATE OF REVIEW		4. DATE OF ACTION	
5. DATE OF REPORT		6. DATE OF ACTION		7. DATE OF REVIEW		8. DATE OF ACTION	
9. DATE OF REPORT		10. DATE OF ACTION		11. DATE OF REVIEW		12. DATE OF ACTION	
13. DATE OF REPORT		14. DATE OF ACTION		15. DATE OF REVIEW		16. DATE OF ACTION	
17. DATE OF REPORT		18. DATE OF ACTION		19. DATE OF REVIEW		20. DATE OF ACTION	
21. DATE OF REPORT		22. DATE OF ACTION		23. DATE OF REVIEW		24. DATE OF ACTION	
25. DATE OF REPORT		26. DATE OF ACTION		27. DATE OF REVIEW		28. DATE OF ACTION	
29. DATE OF REPORT		30. DATE OF ACTION		31. DATE OF REVIEW		32. DATE OF ACTION	
33. DATE OF REPORT		34. DATE OF ACTION		35. DATE OF REVIEW		36. DATE OF ACTION	
37. DATE OF REPORT		38. DATE OF ACTION		39. DATE OF REVIEW		40. DATE OF ACTION	
41. DATE OF REPORT		42. DATE OF ACTION		43. DATE OF REVIEW		44. DATE OF ACTION	
45. DATE OF REPORT		46. DATE OF ACTION		47. DATE OF REVIEW		48. DATE OF ACTION	
49. DATE OF REPORT		50. DATE OF ACTION		51. DATE OF REVIEW		52. DATE OF ACTION	
53. DATE OF REPORT		54. DATE OF ACTION		55. DATE OF REVIEW		56. DATE OF ACTION	
57. DATE OF REPORT		58. DATE OF ACTION		59. DATE OF REVIEW		60. DATE OF ACTION	
61. DATE OF REPORT		62. DATE OF ACTION		63. DATE OF REVIEW		64. DATE OF ACTION	
65. DATE OF REPORT		66. DATE OF ACTION		67. DATE OF REVIEW		68. DATE OF ACTION	
69. DATE OF REPORT		70. DATE OF ACTION		71. DATE OF REVIEW		72. DATE OF ACTION	
73. DATE OF REPORT		74. DATE OF ACTION		75. DATE OF REVIEW		76. DATE OF ACTION	
77. DATE OF REPORT		78. DATE OF ACTION		79. DATE OF REVIEW		80. DATE OF ACTION	
81. DATE OF REPORT		82. DATE OF ACTION		83. DATE OF REVIEW		84. DATE OF ACTION	
85. DATE OF REPORT		86. DATE OF ACTION		87. DATE OF REVIEW		88. DATE OF ACTION	
89. DATE OF REPORT		90. DATE OF ACTION		91. DATE OF REVIEW		92. DATE OF ACTION	
93. DATE OF REPORT		94. DATE OF ACTION		95. DATE OF REVIEW		96. DATE OF ACTION	
97. DATE OF REPORT		98. DATE OF ACTION		99. DATE OF REVIEW		100. DATE OF ACTION	

ONR CONTRACT DISTRIBUTION LIST
NAVSO 4330/10 (REV. 9-68)

DEPARTMENT OF THE NAVY
OFFICE OF NAVAL RESEARCH
WASHINGTON, D.C. 20360

CONTRACT NO. 69-C-0181	MODIFICATION NO. -	DOCUMENT DATE 2-15-69	DISTRIBUTION DATE 24 MAR 1969
----------------------------------	------------------------------	---------------------------------	---

Executed copies of the attached contract document have been forwarded by the Office of Naval Research to the principal participants (identified on this list by asterisk); other copies have been forwarded to interested activities as indicated below. Consistently, any activity issuing a modification to the basic contract should supply copies to all original recipients.

ACTIVITY	COPY DISTRIBUTION		ACTIVITY	COPY DISTRIBUTION		ACTIVITY	COPY DISTRIBUTION	
	NORMAL REQ'M'T	THIS CONTRACT		NORMAL REQ'M'T	THIS CONTRACT		NORMAL REQ'M'T	THIS CONTRACT
* CONTRACTOR	1	✓	FIELD ADMINISTRATION:			DEFENSE CONTRACT AUDIT AGENCY REGIONAL OFFICE:		
* PCO, ONR WASHINGTON	1	✓	DIR., ONR BRANCH OFFICE BOSTON	3		BOSTON	1	
* U.S. NAVY FINANCE CENTER CLEVELAND, OHIO	1	✓	DIR., ONR BRANCH OFFICE CHICAGO	3		NEW YORK	1	
* ADMINISTRATIVE CONTRACTING OFFICER			DIR., ONR BRANCH OFFICE PASADENA	3		PHILADELPHIA	1	
	1		ONR, CASEA 2110 G ST. NW. WASH. D.C.	3		ATLANTA	1	
COMPTROLLER OF FUNDING ACTIVITY, HEADQUARTERS, WASHINGTON, D.C.:			ONR RESIDENT REP:	3		CHICAGO	1	
NAVAL AIR SYSTEMS COMMAND	1		DCAS:			LOS ANGELES	1	
NAVAL ORDNANCE SYSTEMS COMMAND	1		REGION <i>Phila, Penn</i>	6	X	SAN FRANCISCO	1	
NAVAL SHIPS SYSTEMS COMMAND	1		DISTRICT	6		ONR - DEPARTMENTAL:		
NAVAL ELECTRONICS SYSTEMS COMMAND	1		OFFICE	6		CODE (450A)	1	X
NAVAL SUPPLY SYSTEMS COMMAND	2		DOD PLANT REPRESENTATIVE	6		COUNSEL, CODE 106	1	X
NAVAL FACILITIES ENGINEERING COMMAND	1					PATENTS, CODE 315	1	X
BUREAU OF MEDICINE AND SURGERY	1					SCIENTIFIC INFO. 400B.1	1	X
BUREAU OF NAVAL PERSONNEL	2		DISBURSING: NAVY REGIONAL FINANCE CENTER:			ACCOUNTING, CODE 511	1	
NAVAL SHIP RESEARCH AND DEVELOPMENT CENTER	5		3RD NAVAL DISTRICT BROOKLYN, N.Y.	1		PROCUREMENT SERVICES, CODE 603	1	
NAVAL RESEARCH LABORATORY	5		4TH NAVAL DISTRICT PHILADELPHIA, PENNA.	1		PROCUREMENT SERVICES, CODE 626	1	
SPECIAL PROJECTS OFFICE MAIN NAVY BLDG.	1		5TH NAVAL DISTRICT NORFOLK, VA.	1		OTHER:		
ARMY (Via ONR WASH. Code 511)	10		9TH NAVAL DISTRICT GREAT LAKES, ILL.	1		NAVAL MATERIAL COMMAND HEADQUARTERS, INSURANCE BRANCH, WASH., D.C.	1	
AIR FORCE (Via ONR WASH. Code 511)	10		11TH NAVAL DISTRICT SAN DIEGO, CALIF.	1				
ADVANCED RESEARCH PROJECTS AGENCY, PENTAGON	2		12TH NAVAL DISTRICT OAKLAND, CALIF.	1				
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	1		14TH NAVAL DISTRICT HAWAII	1				
CNO (OP)	3		U.S. NAVY FINANCE CENTER MUNITIONS BLDG. WASH. D.C.	1				
MARINE CORPS	3							

ROUTING (CODE NO.)	PUR- POSE	RECEIVED	RELEASED	COMMENTS (Initial and date)
		DATE INITIALS	DATE INITIALS	
616		1/28	MC	
610A		1/28		26
622		1/27	am 0	
106		1/29/69	g/b	Beh
610A		Recorded: In: 1/30/69 Out: 2/11	Typed by: Eas 2/8/69 Proofed by: am 2/11/69	Read by: J
622A				C(P) - March 1967 General Provisions, plus pre-printed multi- pages 26 thru 32 (Patent Rights); plus 4-page Alterations in Contract (for C(P) - March 1967) October 1968. Stamp General Provisions clause 6 "MODIFIED"; stamp clause 41 "DELETED."
				14 FEB 1969
600				
622A				

STANDARD FORM 26, JULY 1966 GENERAL SERVICES ADMINISTRATION FED. PROC. REG. (41CFR) 1-16.101		AWARD/CONTR.				PAGE 1 OF 1	
1. CONTRACT (Proc Inst. Ident.) NO. NO0014 -69-C-0181		2. EFFECTIVE DATE 15 Feb 1969		3. REQUISITION/PURCHASE REQUEST/PROJECT NO. NR 144-246/68-8-23 (454)		4. CERTIFIED FOR NATIONAL DEFENSE UNDER DSCA REG. 2 AND/OR DMS REG. 1 RATING: D0-C9	
5. ISSUED BY Procuring Contracting Officer Office of Naval Research Department of the Navy Washington, D. C. 20360		CODE 00014		6. ADMINISTERED BY (If other than block 3) Commander, Defense Contract Administration Services Region P. O. Box 7478 Philadelphia, Pennsylvania 19101		7. DELIVERY FOB DESTINATION <input type="checkbox"/> N.A. <input type="checkbox"/> OTHER (See below)	
8. CONTRACTOR NAME AND ADDRESS Randomline, Inc. Glenside Avenue & Limekiln Pike Glenside, Pennsylvania 19038		CODE		FACILITY CODE 39		9. DISCOUNT FOR PROMPT PAYMENT N.A.	
(Street, city, county, State, and ZIP code)						10. SUBMIT INVOICES (4 copies unless otherwise specified) TO ADDRESS SHOWN IN BLOCK 6 UNLESS BOX BELOW IS CHECKED <input type="checkbox"/> SEND INVOICES TO THE COGNIZANT DEFENSE CONTRACT AUDIT AGENCY	
11. SHIP TO/MARK FOR N.A.		CODE		12. PAYMENT WILL BE MADE BY Disbursing Officer Defense Contract Administration Services Region P. O. Box 7478 Philadelphia, Pennsylvania 19101		CODE 5704	
13. THIS PROCUREMENT WAS <input type="checkbox"/> ADVERTISED <input checked="" type="checkbox"/> NEGOTIATED, PURSUANT TO: <input checked="" type="checkbox"/> 10 U.S.C. 2304 (a)(1) <input type="checkbox"/> 41 U.S.C. 252 (c)()							
14. APPROPRIATION SYMBOL AND SUBHEAD	OBJ. CLASS.	BUREAU CONTROL NO.	SUB. ALLOT.	AUTHOR'N ACCTG. ACT.	TRANS. TYPE	PROPERTY ACCTG. ACT.	COUNTRY
17X1319.1491	25	24501	-	14	2B	-	-
						1K54	\$20,680.00
15. ITEM NO.	16. SUPPLIES/SERVICES					17. QUANTITY	18. UNIT
	(SEE SECTION B OF <u>Schedule</u> ATTACHED SHEET)						
						19. UNIT PRICE	20. AMOUNT
21. TOTAL AMOUNT OF CONTRACT \$ \$20,680.00							
CONTRACTING OFFICER WILL COMPLETE BLOCK 22 OR 26 AS APPLICABLE							
22. <input checked="" type="checkbox"/> CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign this document and return <u>3</u> copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be sub- ject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)				26. <input type="checkbox"/> AWARD (Contractor is not required to sign this document.) Your offer on Solicitation Number _____ including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the items listed above and on any contin- uation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your offer, and (b) this award/ contract. No further contractual document is necessary.			
23. NAME OF CONTRACTOR				27. UNITED STATES OF AMERICA			
BY _____ (Signature of person authorized to sign)				BY _____ (Signature of Contracting Officer)			
24. NAME AND TITLE OF SIGNER (Type or print)		25. DATE SIGNED		28. NAME OF CONTRACTING OFFICER (Type or print)		29. DATE SIGNED	

FIXED PRICE SCHEDULE (4/20/67)

CONTRACT NUMBER: NQ0014- 69-C-0181

SCHEDULE

SECTION A - BASIC CONTRACT IDENTIFICATION

This Schedule is established under, and constitutes a part of, Contract NQ0014- 69-C-0181, consisting of; face page; Schedule pages 1 through ~~3~~ ³²; and General Provisions pages 1 through ~~2~~ ³² identified as "C(P) - March 1967," with Alterations thereto.

In the event of any inconsistency in this contract, the inconsistency shall be resolved by giving precedence in the following order; (a) the Schedule; (b) the General Provisions; (c) the other provisions of the contract whether incorporated by reference or otherwise; and (d) the Specifications.

SECTION B - SPECIFICATION OF WORK

Line Item
No.

Supplies/Services

Amount

1

The Contractor shall furnish the necessary personnel and facilities for and, in accordance with any instructions issued by the Scientific Officer or his authorized representative, shall study the effects of exposure to radio frequency energy and ionized air on performance.

(FIXED PRICE)

EAM TITLE: BEHAVIORAL BIOPHYSICS

1AA - See Section E - 15 April 1969	\$ 3,400.00
1AB - See Section E - 15 June 1969	3,400.00
1AQ - See Section E - 15 August 1969	3,400.00
1AD - See Section E - 15 October 1969	3,400.00
1AE - See Section E - 15 December 1969	3,400.00
1AF - See Section E - Upon completion of work	<u>3,680.00</u>

Total Amount of Contract \$20,680.00

2

Reports - See Section ~~F~~

(Not Separately Priced)

N00014-69-C-0181

SECTION C - PERIOD OF PERFORMANCE

The performance of work hereunder shall commence on 15 February 1969 and shall be completed on 14 February 1970.

SECTION D - SCIENTIFIC OFFICER

The Scientific Officer under this contract is the Head, Physiological Psychology Branch, Psychological Sciences Division, Office of Naval Research, Department of the Navy, Washington, D. C. 20360.

SECTION E - PRICE AND PAYMENTS

(1) Except to the extent otherwise provided herein, the Government shall pay to the Contractor as full compensation for the performance of work hereunder, the total price specified in Item 21 on Page 1, hereof. Upon receipt of properly certified invoices, and a certification by the Contract Administrator that status (progress) reports have been submitted in accordance with Section F, hereof, payments shall be made, notwithstanding any provisions of clause 2 of the contract to the contrary, as specified herein; provided, however, that the final payment shall not be made until the Scientific Officer has received the final report from the Contractor and has certified receipt and acceptance thereof to the Contract Administrator.

(2) The total contract price specified in this contract is based upon the understanding that the Contractor shall conduct the specified research program substantially in accordance with the proposal(s) upon which this contract ~~(and subsequent Modifications thereto)~~ is ~~(are)~~ based.

(3) In the event that the performance of work under this contract is not substantially in accordance with the underlying proposal, it is understood and agreed that the parties hereto shall negotiate an appropriate reduction in the contract price or an extension in the period of performance of this contract.

FIXED PRICE SCHEDULE (4-20-67)

CONTRACT NUMBER: N00014- 69-C-0181

SECTION F - REPORTS

(1) The Contractor shall submit not more than fifty (50) copies of status (progress) reports on the dates specified herein, and not more than one hundred (100) copies of a final technical report making full disclosures of all research conducted under this contract. The final technical report shall be distributed in accordance with a list approved and furnished to the Contractor by the Scientific Officer. With the approval of the Scientific Officer, reprints of published articles may be distributed as technical reports. In all technical reports (including reprints) submitted hereunder, there shall be affixed a face page which shall contain a statement that "reproduction in whole or in part is permitted for any purpose of the United States Government," and a statement that the research was sponsored by the Office of Naval Research, including the ONR Contract Number and the ONR Contract Authority identification number (NR-, Reqn., etc.). Where reports based upon research performed under this contract are published in scientific and technical journals or where news releases are issued with regard to the work performed under this contract, there shall be included in such publications and news releases an appropriate statement acknowledging that the research being reported was accomplished with the support of the Office of Naval Research.

(2) The Contractor shall include a completed "Document Control Data - R&D" form (DD Form 1473) as the last page of each copy of every scientific and technical report prepared under this contract. The form contains instructions for preparation. The cognizant Government Contract Administrator will provide assistance to the Contractor in obtaining the required forms. Administrative type reports, managerial (status) reports, and reprints submitted as technical reports are excluded from this requirement.

(3) Unless otherwise authorized in writing by the Contracting Officer, reports submitted hereunder shall be reproduced only by duplicating processes and shall not exceed 5,000 single page reports or a total of 25,000 pages of a multiple-page report. To satisfy the requirements of the Defense Documentation Center, at least one copy of each technical report submitted to the Defense Documentation Center must be black typing or reproduction of black on white paper or suitable for reproduction by photographic techniques. Reprints of published technical articles are not within the scope of this paragraph (3).

DRAFT

APPROVED: William C. Sullivan

Contract Specialist - WILLIAM C. SULLIVAN

Ronald R. Woodward
Scientific Officer

Date: 28 Jan 69

CONTRACT COMPLETION STATEMENT

ACO F1

ORG 11

1. FROM: (Contract Administration Office)

PHILADELPHIA
P O BOX 7730
PHILA PA 19101

DCRP-DCASR

2a. PII NUMBER

N00014 69 C0181

2b. LAST MODIFICATION NUMBER

2c. CALL/ORDER NUMBER

3. TO: (Name and Address of Purchasing Office and Office Symbol of the PCO, if known)

OFFICE OF NAVAL RESEARCH
WASHINGTON D C 203604. CONTRACTOR IDENTITY
CODE AND ADDRESS
RANDOMLINE INC
WILLOW GROVE
PA5. EXCESS FUNDS ☐ YES ☒ NO

\$

6a. IF FINAL PAYMENT HAS BEEN MADE, COMPLETE
ITEMS 6b., AND 6c.

04/04/73

6b. VOUCHER NUMBER

p4550

6c. DATE

04/04/73

7a. IF FINAL APPROVED INVOICE FORWARD-
ED TO D.O. OF ANOTHER ACTIVITY AND
STATUS OF PAYMENT IS UNKNOWN, COM-
PLETE ITEMS 7b. AND 7c.

7b. INVOICE NUMBER

7c. DATE FORWARDED

8. REMARKS

9a. ALL ADMINISTRATION OFFICE ACTIONS REQUIRED HAVE BEEN FULLY AND SATISFACTORILY ACCOMPLISHED. THIS
INCLUDES FINAL SETTLEMENT IN THE CASE OF A PRICE REVISION CONTRACT.

9b. TYPED NAME OF RESPONSIBLE OFFICIAL

ACO

9c. SIGNATURE

W. J. King

9d. DATE

11 April 1973

FOR PURCHASING OFFICE USE ONLY

10a. ALL PURCHASING OFFICE ACTIONS REQUIRED HAVE BEEN FULLY AND SATISFACTORILY ACCOMPLISHED. CONTRACT
FILE OF THIS OFFICE IS HEREBY CLOSED AS OF:☐ DATE SHOWN IN ITEM 9d. ABOVE.☐ DATE SHOWN IN ITEM 10e. BELOW. (Check this box only if final completion of any significant purchasing office
action extends more than three months beyond close-out date shown in item 9d. above. In such cases, submit a copy
of the completed form upon final accomplishment of all purchasing office actions to the contract administration office.
(Upon receipt, the contract administration office shall extend its contract file close-out date accordingly.))

10b. REMARKS

Sandi 1 SPW
Diana 2 SPW 2-11-73
Mary 3 mr

10c. TYPED NAME OF RESPONSIBLE OFFICIAL

10d. SIGNATURE

10e. DATE

SUB-VOUCHER

DSSN

DATE

VOUCHER NO

PAGE 01

5704

04-04-73

P45-50

CHECK NO

OR

CASH

AMOUNT OF PAYMENT

00263404

FOR CASH PAYMENTS ONLY

PAID TO:

14,145.00

DATE

SIGNATURE

RANDOMLINE INC
OLD YORK MORELAND RDS
WILLOW GROVE PA 19090

CONTRACT OR OTHER

AUTHORIZATION
NUMBER

FT

DEPT

FY

ACCOUNTING CLASSIFICATION

NAVY

BU

APP

OBJ

MIPR

BU

CON

EXPEND

ACCTG

ACCTG

STA

BUD

ACT

USN

AMOUNT

FUND

LIMIT

O A C

SERIAL

NUMBER

PROJ

SUB

OBJ

LOC

NO.

1 N0001469C0181

17

21319 RE

2427

00024

0656722B

13,689.00

1 N0001469C0181

17

21319 RE

1421

00014

0000142B

456.00

CONTRACT TOTAL

14,145.00

COLLECTIONS AND/OR DEDUCTIONS

* TYPE OF PAYMENT CODE

REMARKS

COMMERCIAL ACCOUNTS

COMPLETE OR FINAL

TOTAL 02

WORK IN PROGRESS

ANCE

ED FUND

TRAVEL

ANCE

COMPLETE OR FINAL

AL

FORM

JUN 65 1534-1

ADVICE OF PAYMENT

AYEE NAME

CONTRACT NO.

THE INCLOSED PAYMENT HAS BEEN BASED ON THE FOLLOWING COMPUTATIONS:

INVOICE OR AUDIT VOUCHER NOS.

TOTAL AMOUNT OF INVOICES

REFUND (See Remarks)

GROSS AMOUNT (Omit if no Refund)

LESS

DISCOUNT

WORK IN PROGRESS RECOUPMENT @ %

OTHER DEDUCTION (See Remarks)

NET PAYMENT

TYPE OF PAYMENT

COMPLETE OR FINAL

WORK IN PROGRESS

ADVANCE

LAPSED FUND

FINANCE OFFICE

REMARKS

Randomline Inc
527682 WA 10,037.00
527682 24 4,108.00
Approved by W. King, CEO
DR 144-246/10-2-70454
WDC
WPA
74995

Refund
5 Weeks
7004 funded

5704
9/28/73

F.L. CHERRY
CAPT. USAF
PHILA. PA

William Brown, Pa.
19090



DEPARTMENT OF THE NAVY
OFFICE OF NAVAL RESEARCH
ARLINGTON, VIRGINIA 22217

IN REPLY REFER TO:

315:TMB:myl
29 August 1973

From: Chief of Naval Research
To: Commander, Defense Contract Administration Services Region
P. O. Box 7478
Philadelphia, Pennsylvania 19101

Subj: Contract N00014-69-C-0181, Randomline, Inc.

Encl: (1) DD Form 882 dtd 13 April 1973

1. Enclosure (1), the contractor's final report of inventions under subject contract, has been approved and is forwarded herewith.

T. M. HELL
By direction

Copy to:

Code 622

Code 441

DNR INTER-OFFICE ROUTE SHEET
NAVSO 2700/44 (REV. 9-66)

REF. / SERIAL NO.

DOCUMENT DATE

5/2/

N00014-69-C-0181

Randomline, Inc

[illegible]

1 - INFORMATION
5 - SIGNATURE

315:TM:1g
N00014-69-C-0181
21 May 1973

Randomline, Inc.
Old York and Moreland Roads
Willow Grove, Pennsylvania 19190

Attention: Allen H. Frey
Technical Director

Re: Contract N00014-69-C-0181;

Gentlemen:

It has been brought to the attention of this office that in the course of your performance of work under the above-referenced contract, two items have been developed which appear to be of a patentable nature. They are: (1) a new type of heart function sensor that involves no metal contact with the heart in the electromagnetic field as stated on page 3 of the Final Report dated 14 April 1973, and (2) a concept for a method or apparatus for the detection of submerged objects, also referred to as Electrical Field Discrimination, based on the study of fish as discussed on page 1 of the same Final Report.

Accordingly, in view of the invention reporting requirements of the Patent Rights (Deferred) clause of the contract, this is to request information on what consideration is being given to the timely submission of invention disclosures on these developments, or in lieu thereof, the reasons for nondisclosure, such as reasons why the developments are considered to be non-reportable items.

It is desirable that any disclosures to be submitted be in duplicate and that each include a concise explanation of the purposes, advantages, novel features, as well as an identification of the inventor and the inventor's place of residence and citizenship. Information is also desired on the anticipated use of each development and any potential or existing statutory bar against patenting.

A response by Randomline, Inc. in this matter within sixty (60) days of the date of this letter would be appreciated.

Sincerely yours,

[S] A. F. Kwitnieski

A. F. KWITNIESKI
Patent Counsel
Non-Material Components
By direction of
Chief of Naval Research

Copy to:
DCAER/Philadelphia
ONR Code 441
ONR Code 610

Memorandum

DATE: 1-21-72

FROM Code 612

TO Code 810

SUBJ Facility/Stowage Clearance

1. Please indicate below the facility and stowage clearance for:

Randomline, Inc.
Old York & Moreland Roads
Willow Grove, Pennsylvania 19010

FACILITY
STOWAGE

Secret
Secret

David A. Rodgers
David A. Rodgers, Contract Negotiator

DRodgers
SECURITY OFFICER SIGNATURE

21 Jan 72

C-16685

69-C-0181

bn
9 March 1972

Randomline, Incorporated
Old York & Moreland Roads
Willow Grove, Pennsylvania 19010

A. R. Zandle

N000114-69-C-0181, P000005

DEPARTMENT OF THE NAVY

Memorandum

DATE: 1-21-72

FROM Code 612

TO Code 810

SUBJ Facility/Stowage Clearance

69-C-0181

1. Please indicate below the facility and stowage clearance for:

Randomline, Inc.
Old York & Moreland Roads
Willow Grove, Pennsylvania 19010

FACILITY
STOWAGE

Secret
Secret

David A. Rodgers
David A. Rodgers, Contract Negotiator

W. H. Smith
SECURITY OFFICER SIGNATURE

21 Jan 72

C-16685

bn
9 March 1972

Randomling, Incorporated
Old York & Moreland Roads
Willow Grove, Pennsylvania 19010

A. R. Zandle

N00014-69-0-0181, P00005

315:TMB:mv1
N00014-69-C-0181
24 April 1973

From: Chief of Naval Research
To: Commander, Defense Contract Administration Services Region,
P. O. Box 7478, Philadelphia, Pennsylvania 19101

Subj: Contract N00014-69-C-0181, Randomline, Inc.

Ref: (a) DD Form 882 dated 13 April 1973

1. Reference (a), the contractor's final Report of Inventions and Subcontracts was forwarded to this office for approval. Approval of the report by this office is being withheld pending receipt and review of the contractor's final Technical report so that it can be determined if the contractor has complied with the reporting requirements of the Patent Rights clause contained in the contract.

A. F. KWITNIESKI
By direction

Copy to:
Code 441
Code 622

622:LOL:gm
H00014-69-C-0181

MAR 5 1973

From: Chief of Naval Research
To: Commander, Defense Contract Administration Services Region,
Philadelphia (Attn: Mr. Dann, DCRP-DACB(T))

Subj: Contract H00014-69-C-0181, Randomline, Inc.

Ref: (a) DCASR, Philadelphia, Naval Message 270012Z Feb 73

1. In reply to reference (a), the final report is not due until 14 April 1973 and as of this date has not been received. In connection therewith, the Contractor should receive a signed copy of a DD 250 from the Scientific Officer upon receipt and acceptance of the final report and submit it with his invoice for payment due on Line Items A001AN and A002AJ.

L. O. LINCOLN
By direction

Copy to:
ONR Code 441

NAVAL MESSAGE*****

UNCLASSIFIED***

* NAVY DEPARTMENT

ROUTINE
R 270012Z FEB 73
FM CMDR DCASR PHILA

FM CDR DCASR PHILA
TO OFC NAVAL RESEARCH/DEPT OF NAVY/PCD/ARLINGTON VA
26 JUN 68

TO DFC NAVAL RESERVE
DUNCLAS DCRP DACB(T) 29B-26 SGN DANN
CONTRACT NO0014-

UNCLAS DCRP DACB(T) 29B-26 SGN
RE: RANDOMLINE INC CONTRACT NO0014-69-C-0181. REQUEST
APPROVAL IN ACCORDANCE WITH PAR 5 (1) ABOVE CONTRACT OF LINE
ITEMS A001AN FINAL REPORT AND A002AJ FINAL REPORT. EXPEDITE REPLY.

DLVR: OFC NAVAL RESEARCH/DEPT OF NAV...ACT (15)

SVC (1)

600

(15)

16)

CONTROL NO.	PAGE	OF	PAGE	TIME OF RECEIPT	DATE TIME GROUP
243633/059	1	OF	1	USN 0635 059/01:45Z	270012Z FEB 73

UNCLASSIFIED*****

1 OF 1
*****UNCLASSIFIED*****

CONTRACT COMPLETION STATEMENT ACJ F1

1. FROM: (Contract Administration Office) DCASR PHILA. P.O. BOX 7478 PHILA PA 19101		2a. PI NUMBER N00014 69 C0181	
		2b. LAST MODIFICATION NUMBER	
		2c. CALL/ORDER NUMBER	
3. TO: (Name and Address of Purchasing Office and Office Symbol of the PCO, if known) OFFICE OF NAVAL RESEARCH WASHINGTON D C 20360 ATTN <i>Pco</i>		4. CONTRACTOR IDENTITY CODE AND ADDRESS RANDOMLINE INC WILLOW GROVE PA 19090	
		5. EXCESS FUNDS <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO \$	
6a. IF FINAL PAYMENT HAS BEEN MADE, COMPLETE ITEMS 6b., AND 6c. 03/10/72		6b. VOUCHER NUMBER P6664	
7a. IF FINAL APPROVED INVOICE FORWARD- ED TO D.O. OF ANOTHER ACTIVITY AND STATUS OF PAYMENT IS UNKNOWN, COM- PLETE ITEMS 7b, AND 7c.		7b. INVOICE NUMBER	
8. REMARKS <i>This action to close out contract was canceled by DCASR Phila of 4-7-72 see file Voucher is changed from final to partial period of performance extended to 2-14-73</i>		7c. DATE FORWARDED	
9a. ALL ADMINISTRATION OFFICE ACTIONS REQUIRED HAVE BEEN FULLY AND SATISFACTORILY ACCOMPLISHED. THIS INCLUDES FINAL SETTLEMENT IN THE CASE OF A PRICE REVISION CONTRACT.			
9b. TYPED NAME OF RESPONSIBLE OFFICIAL A CO		9c. SIGNATURE <i>Working</i>	
		9d. DATE 16 Mar 1972	
FOR PURCHASING OFFICE USE ONLY			
10a. ALL PURCHASING OFFICE ACTIONS REQUIRED HAVE BEEN FULLY AND SATISFACTORILY ACCOMPLISHED. CONTRACT FILE OF THIS OFFICE IS HEREBY CLOSED AS OF: <input type="checkbox"/> DATE SHOWN IN ITEM 9d. ABOVE. <input type="checkbox"/> DATE SHOWN IN ITEM 10e. BELOW. (Check this box only if final completion of any significant purchasing office action extends more than three months beyond close-out date shown in item 9d. above. In such cases, submit a copy of the completed form upon final accomplishment of all purchasing office actions to the contract administration office. (Upon receipt, the contract administration office shall extend its contract file close-out date accordingly.))			
10b. REMARKS <i>Sandy Jiv 3/31/72 Bentley 11/11/72</i>			
10c. TYPED NAME OF RESPONSIBLE OFFICIAL		10d. SIGNATURE	
		10e. DATE	

SUB - VOUCHER

DSSN

DATE

VOUCHER NO.

PAGE 01

5704

03-10-77

160-64

CHECK NO. OR ☐ CASH AMOUNT OF PAYMENT

00230128

3,547.00

FOR CASH PAYMENTS ONLY

PAID TO:

RANDOMLINE INC
OLD YORK MORELAND RDS
WILLOW GROVE PA 19090

ATE

SIGNATURE

ACCOUNTING CLASSIFICATION

CONTRACT OR OTHER
AUTHORIZATION
NUMBER

FT

DEPT

FY

NAVY

BU

APP

OBJ

MIPR

BU

CON

EXPEND

ACCTG

ACCTG

STA

BUD

ACT

USN

AMOUNT

1 N0001469C0181

17

X1319 N3

1411 250 12501 0

0000142B

167.00

1 N0001469C0181

17

X1319 N3

1491 250 24501

0000142B

10.00

1 N0001469C0181

17

X1319 N3

2415 250 74995

0658722B

3,370.00

CONTRACT TOTAL

3,547.00

COLLECTIONS AND/OR DEDUCTIONS

* TYPE OF PAYMENT CODE

REMARKS

COMMERCIAL ACCOUNTS

. COMPLETE OR FINAL

. PARTIAL

. WORK IN PROGRESS 019

. ADVANCE

. LAPSED FUND

TRAVEL

. ADVANCE

. COMPLETE OR FINAL

. PARTIAL

FORM 1534-1
1 JUN 65REPLACES AF FORM 115B, NOV 61, WHICH WILL BE
USED UNTIL STOCKS ARE EXHAUSTED.Form approved by Comptroller
General, U.S. 4 Apr 56

ADVISE OF PAYMENT

PAYEE NAME

CONTRACT NO.

THE INCLOSED PAYMENT HAS BEEN BASED ON THE FOLLOWING COMPUTATIONS:

INVOICE OR AUDIT VOUCHER NOS.

TOTAL AMOUNT OF
INVOICES

REFUND
(See Remarks)

GROSS AMOUNT
(Omit if no Refund)

LESS

DISCOUNT

WORK IN PROGRESS
RECOUPMENT @ %

OTHER DEDUCTION
(See Remarks)

NET PAYMENT

TYPE OF PAYMENT

COMPLETE OR FINAL

WORK IN PROGRESS

ADVANCE

LARSED FUND

PARTIAL

FINANCE OFFICE

E. J. RAY JR.
11-20-1964
HARRIS, TX

REMARKS



DEFENSE SUPPLY AGENCY
DEFENSE CONTRACT ADMINISTRATION SERVICES REGION, PHILADELPHIA
POST OFFICE BOX 7730
PHILADELPHIA, PENNSYLVANIA 19101

IN REPLY
REFER TO

DCRP- FCCRA

7 April 1972

SUBJECT: Adjustment of Payment Voucher
Contract # N00014-69-C0181 w/ Randomline, Inc.

TO: Procuring Contracting Officer
Office of Naval Research
Department of the Navy
Arlington, Virginia, 22217

1. Reference: D.O. Voucher # P66-64, dated 3/10/72
financial accounts of E. J. BANO, LT, SC, USNR.
2. Above referenced voucher was processed as ~~partial~~/final payment
19 and charged to accounting station 000014.
3. It is requested that the above payment be corrected to read
partial/~~final~~ in lieu of ~~partial~~/final.
4. Records of this office have been changed accordingly.

FOR THE COMMANDER:

M. Lucas
M. LUCAS

FOR: LT. E. J. BANO, JR., (SC) USNR
Chief, Accounting & Finance Division
Office of Systems & Financial Management

DSSN 5704

Copy furnished:
Finance Center
Navy

DCRP-FL-F-130
Sept 71

Edition Jan 70 Obsolete

20100
old NR
144-246
MAY 27 1971

RANDOMLINE, INC.

Old York & Moreland Roads
Willow Grove, Penna. 19090

(215) OL 9-6228

May 26, 1971

Dr. Donald Woodward
Psychophysiology Project
Physiology Program (Code 441)
Office of Naval Research
800 N. Quincy St.
Arlington, Va.

Dear Dr. Woodward:

Enclosed for your consideration is our request for renewal of contract N00014-69-C-0181. Technical and progress reports have been submitted as called for with most progress reports made in person by the project director since the Scientific Officer and he finds it to be a more adequate means of communication than simple letter reports.

We do not expect to have a significant balance by the contract expiration date.

Sincerely,

A. R. Zandle

A. R. Zandle

ARZ/bf

encl.

12. INFORMATION PERTAINING TO CLASSIFIED CONTRACTS OR PROJECTS, EVEN THOUGH SUCH INFORMATION IS CONSIDERED UNCLASSIFIED, SHALL NOT BE RELEASED FOR PUBLIC DISSEMINATION EXCEPT AS PROVIDED BY THE INDUSTRIAL SECURITY MANUAL (paragraph 5n and Appendix IX).

PROPOSED PUBLIC RELEASES SHALL BE SUBMITTED FOR APPROVAL PRIOR TO RELEASE

☐ DIRECT ☒ THROUGH (Specify)

Physiological Psychology Programs

Office of Naval Research (Code 454), Arlington, Virginia 22217

TO THE DIRECTORATE FOR SECURITY REVIEW, OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE (Public Affairs)* FOR REVIEW IN ACCORDANCE WITH PARAGRAPH 5n OF THE INDUSTRIAL SECURITY MANUAL.

*In the case of non-DoD user agencies, see footnote, paragraph 5n, Industrial Security Manual.

13. SECURITY CLASSIFICATION SPECIFICATIONS FOR THIS CONTRACT ARE SET FORTH BELOW (Check which are applicable):

☐ DD FORM 254C ATTACHED (hereby made a part of this specification).

☐ DOCUMENT(S) LISTED BELOW (hereby made part of this specification).

☒ AS STATED BELOW

Technical reports classified as high as Secret may be supplied the contractor by ONR, DDC, other military agencies, and other DOD contractors. These reports may be retained for the duration of the contract unless no longer needed. When a report has served its purpose it should be destroyed in accordance with current security regulations, or returned to the originating activity (if required). Upon completion of the contract all remaining classified material will be destroyed in accordance with current security regulations unless retention has been requested and authorized in accordance with paragraph 5 of the Industrial Security Manual.

Technical reports may be generated as high as Confidential under this contract.

CONTRACT SECURITY CLASSIFICATION SPECIFICATIONS FOR SUBCONTRACTS ISSUING FROM THIS CONTRACT WILL BE APPROVED BY THE OFFICIAL NAMED IN ITEM 14b BELOW:

REQUIRED DISTRIBUTION:

- ☐ PRIME CONTRACTOR (Item 6a)
☐ COGNIZANT SECURITY OFFICE (Item 6b)
☐ ADMINISTRATIVE CONTRACTING OFFICE (Item 14b)
☐ MATERIAL INSPECTOR
☐ DIRECTOR, FEDERAL BUREAU OF INVESTIGATION
WASHINGTON, D.C. (Only for Items 2a and 2b)
(Attachments hereto not included.)
☐ SUBCONTRACTOR (Item 7a)
☐ COGNIZANT SECURITY OFFICE (Item 7b)

ADDITIONAL DISTRIBUTION:

☐

☐

14. THIS CONTRACT SECURITY CLASSIFICATION SPECIFICATION AND ATTACHMENTS REFERENCED HEREIN, APPROVED BY THE USER AGENCY CONTRACTING OFFICER OR HIS REPRESENTATIVE NAMED BELOW:

SIGNATURE



TYPED NAME AND TITLE OF APPROVING OFFICIAL

Dr. GILBERT C. TOLHURST, Dir., Physiological Psychol.

a. APPROVING OFFICIAL'S ACTIVITY AND ADDRESS (Include ZIP Code)

Office of Naval Research
Arlington, Virginia 22217

b. NAME AND ADDRESS OF ADMINISTRATIVE CONTRACTING OFFICE (Include ZIP Code)

DC ASR / (Handwritten initials)

DEPARTMENT OF DEFENSE CONTRACT SECURITY CLASSIFICATION SPECIFICATION <small>(Complete classified items by separate correspondence)</small>		1. THE REQUIREMENTS OF THE DOD INDUSTRIAL SECURITY MANUAL APPLY TO CLASSIFICATION OF THIS CONTRACT. FACILITY SECURITY CLEARANCE REQUIRED FOR CONTRACT PERFORMANCE OR FOR ACCESS TO CLASSIFIED INFORMATION IS <u>SECRET</u>	
2. THIS SPECIFICATION IS FOR:	3. CONTRACT NUMBER OR OTHER IDENTIFICATION NUMBER <small>(Prime contracts must be shown for all subcontracts)</small>	DATE TO BE COMPLETED <small>(Estimated)</small>	4. THIS SPECIFICATION IS: <small>(See note below)</small>
<input checked="" type="checkbox"/> a. PRIME CONTRACT	a. PRIME <u>1-50014-69-C-0181</u>		<input checked="" type="checkbox"/> a. ORIGINAL
<input type="checkbox"/> b. SUBCONTRACT <small>(Use Item 8 to identify further subcontracting)</small>	b. FIRST TIER SUBCONTRACT		<input checked="" type="checkbox"/> b. REVISED <small>(Supersedes all previous specifications)</small>
<input type="checkbox"/> c. INVITATION TO BID OR REQUEST FOR PROPOSAL	c. INVITATION FOR BID, REQUEST FOR PROPOSAL, OR REQUEST FOR QUOTE		<input type="checkbox"/> c. FINAL
5. IF THIS IS A FOLLOW-ON CONTRACT, ENTER PRECEDING CONTRACT NUMBER AND DATE COMPLETED <input checked="" type="checkbox"/> DOES NOT APPLY			
CONTRACT NUMBER N00014-69-C-0181		DATE COMPLETED	
6a. NAME AND ADDRESS OF PRIME CONTRACTOR <small>(Include ZIP Code)</small> Randomline, Inc. Old York & Moreland Roads Willow Grove, Pennsylvania 19010		b. NAME AND ADDRESS OF COGNIZANT SECURITY OFFICE <small>(Include ZIP Code)</small> N/A	
7a. NAME AND ADDRESS OF FIRST TIER SUBCONTRACTOR <small>(If applicable) (Include ZIP Code)</small> N/A <small>(Use Item 8 to identify further subcontracting)</small>		b. NAME AND ADDRESS OF COGNIZANT SECURITY OFFICE <small>(Include ZIP Code)</small> N/A	
8. SUBCONTRACTING BEYOND FIRST TIER <small>(as appropriate)</small> N/A			
9a. GENERAL IDENTIFICATION OF THE PROCUREMENT FOR WHICH THIS SPECIFICATION APPLIES The effects of electromagnetic energy upon the nervous systems and on behavior.			
b. CONTRACT PRESCRIBES SECURITY REQUIREMENTS WHICH ARE ADDITIONAL TO THOSE PRESCRIBED IN DD FORM 441 AND THE ISM <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
10. CONTRACT PERFORMANCE WILL REQUIRE	YES	NO	REMARKS
GRAPHIC ARTS SERVICES	<input checked="" type="checkbox"/>		
ACCESS TO CONTROLLED AREAS OR CLASSIFIED INFORMATION ONLY	<input checked="" type="checkbox"/>		
MANUFACTURE OF CLASSIFIED HARDWARE		<input checked="" type="checkbox"/>	
GENERATION, RECEIPT, OR CUSTODY OF CLASSIFIED DOCUMENTS OR OTHER MATERIAL	<input checked="" type="checkbox"/>		
ACCESS TO RESTRICTED DATA		<input checked="" type="checkbox"/>	
ACCESS TO CRYPTOGRAPHIC INFORMATION		<input checked="" type="checkbox"/>	
ACCESS TO COMMUNICATION ANALYSIS INFORMATION		<input checked="" type="checkbox"/>	
DEFENSE DOCUMENTATION CENTER OR DEFENSE INFORMATION ANALYSIS CENTER SERVICES MAY BE REQUESTED <small>(If yes, see paragraph T, app I, Industrial Security Manual.)</small>	<input checked="" type="checkbox"/>		
11. REFER ALL QUESTIONS PERTAINING TO CONTRACT SECURITY CLASSIFICATION SPECIFICATION TO THE OFFICIAL NAMED BELOW <small>(NORMALLY, thru ACO (Item 14b); EMERGENCY, direct with written record of inquiry and response to ACO) (thru prime contractor for subcontracts)</small>			
a. PROGRAM/PROJECT MANAGER OR ACTIVITY <small>(Name, Title, and Organization)</small> GILBERT C. TOLHURST, Director		b. ADDRESS, TELEPHONE NUMBER AND OFFICE SYMBOL <small>(Include ZIP Code)</small> Physiological Psychology Programs Office of Naval Research 692-4505	
NOTE: Original Specification (Item 4a) is authority for contractors to mark classified information. Revised and Final Specifications (Items 4b and c) are authority for contractors to remark the regraded classified information. Such actions by contractors shall be taken in accordance with the provisions of the Industrial Security Manual.			

REVISED

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. AMENDMENT/MODIFICATION NO. 000004		2. EFFECTIVE DATE 70NOV15	3. REQUISITION/PURCHASE REQUEST NO. NR 144-246/10-2-70 454	4. PROJECT NO. (If applicable) N. A.
5. ISSUED BY PROCURING CONTRACTING OFFICER OFFICE OF NAVAL RESEARCH DEPARTMENT OF THE NAVY ARLINGTON, VIRGINIA 22217		CODE N00014	6. ADMINISTERED BY (If other than block 5) SCD-B Commander, Defense Contract Administration Services Region Post Office Box 7478 Philadelphia, Pennsylvania 19101	
7. CONTRACTOR NAME AND ADDRESS Randomline, Inc. Old York and Moreland Roads Willow Grove, Pennsylvania 19090		CODE 	FACILITY CODE 	8. <input type="checkbox"/> AMENDMENT OF SOLICITATION NO. N. A. DATED _____ (See block 9) <input checked="" type="checkbox"/> MODIFICATION OF CONTRACT/ORDER N00014-69-C-0181 NO. _____ DATED 69 Feb 15 (See block 11)

9. THIS BLOCK APPLIES ONLY TO AMENDMENTS OF SOLICITATIONS (N. A.)

- ☐ The above numbered solicitation is amended as set forth in block 12. The hour and date specified for receipt of Offers ☐ is extended, ☐ is not extended. Offerors must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation, or as amended, by one of the following methods:
- (a) By signing and returning _____ copies of this amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE ISSUING OFFICE PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If, by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided such telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

10. ACR	APPROPRIATION SYMBOL AND SUBHEAD	OBJ. CLASS.	BUREAU CONTROL NO.	SUB. ALLOT.	AUTHOR'S ACCTG. ACT	TRANS. TYPE	PROPERTY ACCTG. ACT	COST CODE	AMOUNT
AD	17X1319.2415 Req. No. 03542-03542-1-0129	025	74995	0	065872	2B	000000	000000000000	\$30,326.00

11. THIS BLOCK APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS

- (a) ☐ This Change Order is issued pursuant to _____
The Changes set forth in block 12 are made to the above numbered contract/order.
- (b) ☐ The above numbered contract/order is modified to reflect the administrative changes (such as changes in paying office, appropriation data, etc.) set forth in block 12.
- (c) ☒ This Supplemental Agreement is entered into pursuant to authority of **10 U. S. C. 2304 (a) (1)**
It modifies the above numbered contract as set forth in block 12.

12. DESCRIPTION OF AMENDMENT/MODIFICATION

It is the desire of the Government and the Contractor that the scope of work under Contract N00014-69-C-0181 be expanded, such expansion to include analysis of unique sensory systems. To accomplish this, there are hereby provided a revision in the description of the work and an increase in the total price of said contract.

In consideration of the foregoing, said contract, as modified, is hereby further modified as set forth in the pages attached hereto and made a part hereof.

COMPLETION DATE: **14 FEBRUARY 1972**

Except as provided herein, all terms and conditions of the document referenced in block 8, as heretofore changed, remain unchanged and in full force and effect.

13. <input type="checkbox"/> CONTRACTOR/OFFEROR IS NOT REQUIRED TO SIGN THIS DOCUMENT		<input checked="" type="checkbox"/> CONTRACTOR/OFFEROR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN 3 COPIES TO ISSUING OFFICE	
14. NAME OF CONTRACTOR/OFFEROR BY _____ (Signature of person authorized to sign)		17. UNITED STATES OF AMERICA BY _____ (Signature of Contracting Officer)	
15. NAME AND TITLE OF SIGNER (Type or print)	16. DATE SIGNED	18. NAME OF CONTRACTING OFFICER (Type or print)	19. DATE SIGNED

CONTRACT NUMBER: N00014-69-C-0181
MODIFICATION NUMBER: P00004

2. On the face page of the contract, in Block Number 21, delete the figure "\$62,882.00," and substitute in lieu thereof the figure "\$93,208.00."

3. Effective as of the date of this modification, delete the first sentence of Section A of the Schedule in its entirety and substitute in lieu thereof the following:

"This Schedule is established under, and constitutes a part of, Contract N00014-69-C-0181, consisting of: Face Page; Schedule; Exhibit A, dated 15 November 1970; and General Provisions pages 1 through 29, identified as 'C(P) - October 1969.'"

4. Effective as of the date of this modification, delete Section B of the Schedule in its entirety and substitute in lieu thereof the following:

"SECTION B - SPECIFICATION OF WORK

"Line

Item No.

Supplies/Services

Amount

0001

Scope of Work and Reports - See Exhibit A, dated 15 November 1970, attached hereto.

EAM TITLE: BEHAVIORAL BIOPHYSICS."

5. Effective as of the date of this modification, delete paragraph (1) of Section E of the Schedule in its entirety and substitute in lieu thereof the following:

"(1) Except to the extent otherwise provided herein, the Government shall pay to the Contractor as full compensation for the performance of work hereunder, the total price specified in Block Number 21 on the face page hereof. Upon receipt of properly certified invoices and a certification by the Contract Administrator that status (progress) reports have been submitted in accordance with Section F, hereof, payments shall be made notwithstanding any provisions of clause 2 of the contract to the contrary, in accordance with Exhibit A, attached hereto and made a part hereof; provided, however, that the final payment shall not be made until the Scientific Officer has received the final report from the Contractor and has certified receipt and acceptance thereof to the Contract Administrator."

6. Effective as of the date of this modification, delete Section F of the Schedule in its entirety and substitute in lieu thereof the following:

"SECTION F - REPORTS

"(1) The Contractor shall submit not more than fifty (50) copies of status reports to the Scientific Officer on the dates specified in Exhibit A, and not more than one hundred (100) copies of a final technical report to be distributed in accordance with the following distribution list:

CONTRACT NUMBER: N00014-69-C-0181
 MODIFICATION NUMBER: P00004

<u>Addressee</u>	<u>Number of Copies</u>	
	<u>Unclassified</u>	<u>Classified</u>
Scientific Officer	1	1
Cognizant ONR Branch Office	1	1
Administrative Contracting Officer	1	1
Director, Naval Research Laboratory Washington, D. C. 20390		
Attention: Library, Code 2029 (ONRL)	6	0
Director, Naval Research Laboratory Washington, D.C. 20390		
Attention: Technical Information Division	6	1
Defense Documentation Center, Building 5, Cameron Station, Alexandria, Virginia 22314	20	20
Additional copies to be Distributed in accordance with instructions furnished by the Scientific Officer	65	65.

With the approval of the Scientific Officer, reprints of published articles may be distributed as technical reports. In the technical reports (including reprints) submitted hereunder, there shall be affixed a face page which shall contain a statement that "reproduction in whole or in part is permitted for any purpose of the United States Government," and a statement that the research was sponsored by the Office of Naval Research, including the ONR Contract Number and the ONR Contract authority identification number (NR-, Reqn., etc.). Where reports based upon research performed under this contract are published in scientific and technical journals or where news releases are issued with regard to the work performed under this contract, there shall be included in such publications and news releases an appropriate statement acknowledging that the research being reported was accomplished with the support of the Office of Naval Research.

"(2) The Contractor shall include a completed "Document Control Data -- R&D" form (DD Form 1473) as the first page of each copy of the technical report prepared under this contract. The form contains instructions for preparation. The cognizant Government Contract Administrator will provide assistance to the Contractor in obtaining the required forms. Administrative type reports, managerial (status) reports, and reprints submitted as technical reports are excluded from this requirement.

"(3) Unless otherwise authorized in writing by the Contracting Officer, reports submitted hereunder shall be reproduced only by duplicating processes and shall not exceed 5,000 production units of any page or a total of 25,000 production units of a multiple-page report. A production unit means one sheet, size 8 x 10½", one side only, one color. Technical reports are subject to further duplication by the Government by photographic processes. This requirement will be observed during preparation and production of the reports. Specifically, (i) reproduced text material will be in the form of black characters on white opaque paper; (ii) half-tones will be kept to an absolute minimum consistent with the communication of scientific and technical information; black-and-white linework is preferred; linework will be sharp and clear, of consistent density, and reproduced on white opaque paper; and (iii) material presented in the form of charts, tables or graphs will appear in a final reproduced size large enough to be clearly legible. Graph coordinate rulings or grid lines will be spaced as far apart as practicable. Reprints of published technical articles are not within the scope of this paragraph (3)."

CONTRACT NUMBER: N00014-69-C-0181
MODIFICATION NUMBER: P00004

7. Add the following new Section G of the Schedule:

"SECTION G - PAYMENT INSTRUCTIONS FOR MULTIPLE FUND ACCOUNTING CITATIONS

"In making disbursements from multiple appropriations under this contract, the Disbursing Officer shall make disbursements of appropriations on a first-in, first-out basis, except that Appropriation ACR: AD shall be used only in connection with Exhibit Line Item A002."

This modification increases the total price of Contract N00014-69-C-0181 by \$30,326.00, which increase is chargeable against the Appropriation set forth on Page 1, hereof.

CONTRACT NUMBER: N00014-69-C-0181
 CONTRACT EXHIBIT: A
 CONTRACT LINE ITEM: 0001
 DATE: 15 November 1970

Item No. Supplies/Services

A001 The Contractor shall furnish the necessary personnel and facilities for and, in accordance with such instructions as may be issued by the Scientific Officer or his authorized representative within the scope of this contract, shall study the effects of exposure to radio frequency energy and ionized air on performance.

In accordance with the provisions of Section D and E of the Schedule, the Contractor is required to submit the following reports:

	<u>Type of Report</u>	<u>Due Date</u>	<u>Amount</u>	<u>ACR</u>
A001AA	Status Reports Covering Subline Items 1AA through 1AJ	From 15 February 1969 Through 15 December 1970	\$38,720.00	AA and AB
A001AB	Status Report	15 February 1971	\$ 3,490.00	AB
A001AC	Status Report	15 April 1971	\$ 3,545.00	AC
A001AD	Status Report	15 June 1971	\$ 3,545.00	AC
A001AE	Status Report	15 August 1971	\$ 3,545.00	AC
A001AF	Status Report	15 October 1971	\$ 3,545.00	AC
A001AG	Status Report	15 December 1971	\$ 3,545.00	AC
A001AH	Final Report	Due Not Later Than 14 April 1972	\$ 3,547.00	AC

A002 The Contractor shall initiate and complete an analytical review of unique sensory systems which selected animals use in obtaining information about objects in their environments. The review is designed to provide information such as: what is the nature of the mechanism; does the system have potential useful application in development of a technique for classifying an object (man, mine, etc.) in the water or on the bottom; can the system be modeled; do we have all the necessary data for modeling; if not identify data requirements; what are possible limitations; and what improvements might make the system more useful in classifying objects in water.

In accordance with the provisions of Section D and E of the Schedule, the Contractor is required to submit the following reports:

	<u>Type of Report</u>	<u>Due Date</u>	<u>Amount</u>	<u>ACR</u>
A002AA	Status Report	31 January 1971	\$7,581.00	AD
A002AB	Status Report	15 April 1971	\$7,581.00	AD
A002AC	Status Report	30 June 1971	\$7,581.00	AD
A002AD	Final Report	Due Not Later Than 31 October 1971	\$7,583.00	AD.

1bp

JAN 11 1971

Randomline, Inc.
Old York & Moreland Roads
Willow Grove, Pennsylvania 19090

A. R. Zandle, Secretary-Treasurer

N00014-69-C-0181, P00004

RANDOMLINE, INC.

Old York & Moreland Roads
Willow Grove, Penna. 19090

(215) OL 9-6228

Jan. 5, 1971

Office of Naval Research
Code 622
Arlington, Va 22217

RE: Contract N00014-69-C-0181, P00004
ONR:622:DGR:sjw

Gentlemen

Enclosed are the three executed copies of the above
cited contractual document.

Sincerely



A. R. Zandle
Secretary-Treasurer



DEPARTMENT OF THE NAVY
OFFICE OF NAVAL RESEARCH
ARLINGTON, VIRGINIA 22217

IN REPLY REFER TO
ONR:622:DGR:BJW
DEC 30 1970

Randomline, Inc.
Old York and Moreland Roads
Willow Grove, Pennsylvania 19090
Attention: A. R. Zandel

Subject:

Contract: N00014-69-C-0181, P000014

Gentlemen:

Four copies of the subject contractual document(s) are forwarded herewith. Three are for execution and one is for information and retention. If the terms and conditions thereof are acceptable to you, the three copies should be executed by you and returned to this Office, Attention: Code 622. Upon receipt, this material will be executed on behalf of the Government and a fully executed copy returned to you.

The Contractor's name as used in executing the document should be identical to that shown on the contract. If, however, the title shown is incorrect, it is requested that it be corrected to show the name in which the contract is executed and that this Office be so advised in order that the other copies may be corrected accordingly.

Your prompt execution and return of three copies of this document will be appreciated.

Sincerely yours,

H. I. RAVITZ
Contracting Officer

Encls:

1. Four (4) copies of the subject document(s)

STANDARD FORM 30, JULY 1966 GENERAL SERVICES ADMINISTRATION FED. PROC. REG. (41 CFR) 1-16.101		AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT						PAGE 1	OF 1																				
1. AMENDMENT/MODIFICATION NO. FOO3		2. EFFECTIVE DATE 10 Aug. 5		3. REQUISITION/PURCHASE REQUEST NO. NR 144-245/5 27-70 454		4. PROJECT NO. (If applicable) N. A.																							
5. ISSUED BY Procuring Contracting Officer Office of Naval Research Department of the Navy WASHINGTON, D.C. 20380-X Arlington, Virginia 22211		CODE NO0014		6. ADMINISTERED BY (If other than block 5) Commander, Defense Contract Administration Service Region Post Office Box 7478 Philadelphia, Pennsylvania 19101		CODE S3910A																							
7. CONTRACTOR NAME AND ADDRESS Randomline, Inc. Old York and Moreland Roads Willow Grove, Pennsylvania 19090		CODE 709653		FACILITY CODE 39		8. <input type="checkbox"/> AMENDMENT OF SOLICITATION NO. N. A. DATED _____ (See block 9) <input checked="" type="checkbox"/> MODIFICATION OF CONTRACT/ORDER NO. NO0014-69-C-0181 DATED 69 Feb 15 (See block 11)																							
9. THIS BLOCK APPLIES ONLY TO AMENDMENTS OF SOLICITATIONS (N. A.) <input type="checkbox"/> The above numbered solicitation is amended as set forth in block 12. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended, <input type="checkbox"/> is not extended. Offerors must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation, or as amended, by one of the following methods: (a) By signing and returning _____ copies of this amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE ISSUING OFFICE PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If, by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided such telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.																													
10. <table border="1" style="width:100%; border-collapse: collapse; font-size: x-small;"> <tr> <th>APPROPRIATION SYMBOL AND SUBHEAD</th> <th>OBJ. CLASS</th> <th>BUREAU CONTROL NO.</th> <th>SUB-ALLOT.</th> <th>AUTHOR'S ACCTG. ACT.</th> <th>TRANS. TYPE</th> <th>PROPERTY ACCTG. ACT.</th> <th>COUNTRY</th> <th>COST CODE</th> <th>AMOUNT</th> </tr> <tr> <td>17X1319.1411</td> <td>025</td> <td>12501</td> <td>0</td> <td>000014</td> <td>2B</td> <td>000000</td> <td></td> <td>000000001K54</td> <td>\$21,272.00</td> </tr> </table>										APPROPRIATION SYMBOL AND SUBHEAD	OBJ. CLASS	BUREAU CONTROL NO.	SUB-ALLOT.	AUTHOR'S ACCTG. ACT.	TRANS. TYPE	PROPERTY ACCTG. ACT.	COUNTRY	COST CODE	AMOUNT	17X1319.1411	025	12501	0	000014	2B	000000		000000001K54	\$21,272.00
APPROPRIATION SYMBOL AND SUBHEAD	OBJ. CLASS	BUREAU CONTROL NO.	SUB-ALLOT.	AUTHOR'S ACCTG. ACT.	TRANS. TYPE	PROPERTY ACCTG. ACT.	COUNTRY	COST CODE	AMOUNT																				
17X1319.1411	025	12501	0	000014	2B	000000		000000001K54	\$21,272.00																				
11. THIS BLOCK APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS (a) <input type="checkbox"/> This Change Order is issued pursuant to _____ The Changes set forth in block 12 are made to the above numbered contract/order. (b) <input type="checkbox"/> The above numbered contract/order is modified to reflect the administrative changes (such as changes in paying office, appropriation data, etc.) set forth in block 12. (c) <input checked="" type="checkbox"/> This Supplemental Agreement is entered into pursuant to authority of <u>10 U.S.C. 2304 (a) (1)</u> It modifies the above numbered contract as set forth in block 12.																													
12. DESCRIPTION OF AMENDMENT/MODIFICATION WHEREAS, Contract NO0014-69-C-0181 was entered into as of 15 February 1969 between the Government and Randomline, Inc., for the purpose of providing that the Contractor perform a program of research; and WHEREAS, it is desired that certain of the clauses in the General Provisions of said contract be revised to conform to applicable statutory and departmental requirements; and WHEREAS, it is further desired that the said revisions be reflected in a single document, without making any substantive changes in existing rights and obligations of the Government and the Contractor under said contract. NOW, THEREFORE, in consideration of the foregoing, said Contract NO0014-69-C-0181, as modified, is hereby further modified as set forth on the pages attached hereto.																													
COMPLETION DATE 14 February 1972																													
Except as provided herein, all terms and conditions of the document referenced in block 8, as heretofore changed, remain unchanged and in full force and effect.																													
13. <input type="checkbox"/> CONTRACTOR/OFFEROR IS NOT REQUIRED TO SIGN THIS DOCUMENT <input checked="" type="checkbox"/> CONTRACTOR/OFFEROR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN <u>3</u> COPIES TO ISSUING OFFICE																													
14. NAME OF CONTRACTOR/OFFEROR BY _____ (Signature of person authorized to sign)					17. UNITED STATES OF AMERICA BY _____ (Signature of Contracting Officer)																								
15. NAME AND TITLE OF SIGNER (Type or print)																													

1. Effective as of the date of this modification, the General Provisions entitled "C(P) - October 1969," pages 1 through 29, are hereby substituted for the General Provisions entitled "C(P) - March 1967," pages 1 through 32, with "Alterations" thereto and all subsequent modifications thereto issued prior to this Modification Number P003.
2. It is the intention of the parties hereto that all references in the Schedule issued under this contract to any clause or clauses of the contract shall be deemed to refer to the corresponding or like clause or clauses of the General Provisions attached hereto.
3. Further, it is the desire of the Government and the Contractor that additional research on behavioral biophysics be performed. To accomplish this, there are hereby provided an increase in the total price and an extension in the period of performance of Contract N00014-69-C-0181. In consideration of the foregoing, said contract, as modified, is hereby further modified as follows:

(a) On the face page of the contract, in Block Number 21, delete the figure "\$41,610.00," and substitute in lieu thereof the figure "\$62,882.00."

(b) Effective as of the date of this modification, delete the first sentence of Section A of the Schedule in its entirety and substitute in lieu thereof the following:

"This Schedule is established under, and constitutes a part of, Contract N00014-69-C-0181, consisting of: face page; Schedule; and General Provisions pages 1 through 29, identified as 'C(P) - October 1969.'"

(c) Effective as of the date of this modification, Section B of the Schedule shall read as follows:

"SECTION B - SPECIFICATION OF WORK"

<u>"Line Item No."</u>	<u>Supplies/Services</u>	<u>Amount</u>
1	The Contractor shall furnish the necessary personnel and facilities for and, in accordance with such instructions as may be issued by the Scientific Officer or his authorized representative within the scope of this contract, shall study the effects of exposure to radio frequency energy and ionized air on performance.	

EAM TITLE: BEHAVIORAL BIOPHYSICS

<u>Line Item</u> <u>No.</u>	<u>Supplies/Services</u>	<u>Amount</u>
1AA	- Reports through 15 August 1969	\$10,200.00
1AB	- Report of 15 October 1969	3,490.00
1AC	- Report of 15 December 1969	3,490.00
1AD	- Report of 15 February 1970	3,490.00
1AE	- Report of 15 April 1970	3,490.00
1AF	- Report of 15 June 1970	3,490.00
1AG	- Report of 15 August 1970	3,490.00
1AH	- Report - Due Not Later Than 15 October 1970	3,490.00
1AJ	- Report - Due Not Later Than 15 December 1970	3,490.00
1AK	- Report - Due Not Later Than 15 February 1971	3,490.00
1AL	- Report - Due Not Later Than 15 April 1971	3,545.00
1AM	- Report - Due Not Later Than 15 June 1971	3,545.00
1AN	- Report - Due Not Later Than 15 August 1971	3,545.00
1AP	- Report - Due Not Later Than 15 October 1971	3,545.00
1AQ	- Report - Due Not Later Than 15 December 1971	3,545.00
1AR	- Final Report - Due Not Later Than 14 April 1972	3,547.00
TOTAL		<u>\$62,882.00</u>

The above subline items are to be submitted in accordance with Sections E and F of the Schedule."

(d) Delete Section C of the Schedule in its entirety and substitute in lieu thereof the following:

"SECTION C - PERIOD OF PERFORMANCE

"The performance of work hereunder shall commence on 15 February 1969, and shall be completed on 14 February 1972."

This modification increases the total price of Contract NOC0014-69-G-0181 by \$21,272.00, which increase is chargeable against the Appropriation set forth on Page 1, hereof.

(a) Definitions Used in this Clause.

(1) Subject Invention means any invention or discovery, whether or not patentable, conceived or first actually reduced to practice in the course of or under this contract. The term "Subject Invention" includes, but is not limited to, any art, method, process, machine, manufacture, design or composition of matter, or any new and useful improvement thereof, or any variety of plant, which is or may be patentable under the patent laws of the United States of America or any foreign country.

(2) Governmental purpose means the rights of the Government of the United States (including any agency thereof, state or domestic municipal government) to practice and have practiced (make or have made, use or have used, sell or have sold) any Subject Invention throughout the world by or on behalf of the Government of the United States.

(3) Contract means any contract, agreement, grant, or other arrangement, or subcontract entered into with or for the benefit of the Government where a purpose of the contract is the conduct of experimental, developmental, or research work.

(4) Subcontract and subcontractor mean any subcontract or subcontractor of the Contractor, any lower-tier subcontract or subcontractor under this contract.

(5) To bring to the point of practical application means to manufacture in the case of a composition or product, to practice in the case of a process, or to operate in the case of a machine or system and, in each case, under such conditions as to establish that the invention is being worked and that its benefits are reasonably accessible to the public.

(b) Rights Granted to the Government. Except as provided in (e) and (h) of this clause, the Contractor agrees to grant the Government all right, title and interest in and to each Subject Invention (made by the Contractor), subject to the reservation of a nonexclusive and royalty-free license to the Contractor. The license shall extend to existing and future associated and affiliated companies, if any, within the corporate structure of which the Contractor is a part and shall be assignable to the successor of that part of the Contractor's business to which such Invention pertains. Nothing contained in this Patent Rights clause shall be deemed to grant any rights with respect to any invention other than a Subject Invention.

(c) Invention Disclosures and Reports.

(1) With respect to Subject Inventions (made by the Contractor), except those which are obviously unpatentable under the patent laws of the United States, the Contractor shall furnish to the Contracting Officer:

(i) a written disclosure of each invention within six (6) months after conception or first actual reduction to practice, whichever occurs first under this contract, sufficiently complete in technical detail to convey to one skilled in the art to which the Invention pertains a clear understanding of the nature, purpose, operation, and to the extent known the physical, chemical, or electrical characteristics of the Invention; when unable to submit a complete disclosure, the Contractor shall within said six (6) month period submit a disclosure which includes all such technical detail then known to him and shall, unless the Contracting Officer authorizes a different period, submit all other technical detail necessary to complete the disclosure within three (3) months of the expiration of said six (6) month period;

(ii) interim reports at least every twelve (12) months, the initial period of which shall commence with the date of this contract, each report listing all such Inventions conceived or first actually reduced to practice more than six (6) months prior to the date of the report and not listed on a prior interim report, or certifying that there are no such unreported Inventions;

(iii) prior to final settlement of this contract, a final report listing all such Inventions including all those previously listed in interim reports, or certifying that there are no such unreported Inventions (This Final Report and any Interim Report under (ii) above shall be submitted on DD Form 882 or other format acceptable to the Contracting Officer.);

(iv) information in writing, as soon as practicable, of the date and identity of any public use, sale, or publication of such Invention made by or known to the Contractor or of any contemplated publication by the Contractor;

(v) upon request, such duly executed instruments and other papers (prepared by the Government) as are deemed necessary to vest in the Government the rights granted it under this clause and to enable the Government to apply for and prosecute any patent application, in any country, covering such Invention where the Government has the right under this clause to file such application; and

(vi) upon request, an irrevocable power of attorney to inspect and make copies of each United States patent application filed by, or on behalf of, the Contractor covering any such Invention.

(2) With respect to each Subject Invention in which the Contractor has been granted greater rights under paragraph (h) of this clause, the Contractor agrees to provide written reports at reasonable intervals, when requested by the Government as to:

(i) the commercial use that is being made or is intended to be made of such Invention;

(ii) the steps taken by the Contractor to bring the Invention to the point of practical application, or to make the Invention available for licensing.

(d) Subcontracts.

(1) The Contractor shall, unless otherwise authorized or directed by the Contracting Officer, include a patent rights clause containing all the provisions of this Patent Rights clause except provision (g) in any subcontract hereunder where a purpose of the subcontract is the conduct of experimental, developmental, or research work. In the event of refusal by a subcontractor to accept this Patent Rights clause, or if in the opinion of the Contractor this Patent Rights clause is inconsistent with the policy set forth in ASPR 9-107.2 and 9-107.3, the Contractor:

(i) shall promptly submit a written report to the Contracting Officer setting forth the subcontractor's reasons for such refusal or the reasons Contractor is of the opinion that the inclusion of this clause would be so inconsistent, and other pertinent information which may expedite disposition of the matter; and

(ii) shall not proceed with the subcontract without the written authorization of the Contracting Officer.

The Contractor shall not, in any subcontract or by using such a subcontract as consideration therefor, acquire any rights to Subject Inventions for his own use (as distinguished from such rights as may be required solely to fulfill his contract obligations to the Government in the performance of this contract). Reports, instruments, and other information required to be furnished by a subcontractor to the Contracting Officer under the provisions of such a patent rights clause in a subcontract hereunder may, upon mutual consent of the Contractor and the subcontractor (or by direction of the Contracting Officer) be furnished to the Contractor for transmission to the Contracting Officer.

(2) The Contractor, at the earliest practicable date, shall also notify the Contracting Officer in writing of any subcontract containing a patent rights clause, furnish to the Contracting Officer a copy of such subcontract, and notify him when such subcontract is completed. It is understood that the Government is a third party beneficiary of any subcontract clause granting rights to the Government in Subject Inventions, and the Contractor hereby assigns to the Government all the rights that the Contractor would have to enforce the subcontractor's obligations for the benefit of the Government with respect to Subject Inventions. If there are no subcontracts containing patent rights clauses, a negative report is required. The Contractor shall not be obligated to enforce the agreements of any subcontractor hereunder relating to the obligations of the subcontractor to the Government in regard to Subject Inventions.

(e) Domestic Filing of Patent Applications by Contractor.

(1) If greater rights are granted in and to a Subject Invention pursuant to paragraph (h) of this clause, the Contractor shall file in due form and within six (6) months of the granting of such greater rights a United States Patent application claiming the Invention referred to in said paragraph, and shall furnish, as soon as practicable, the serial number and filing date of

each such application and the patent number of any resulting patent. As to each Invention in which the Contractor has been given greater rights, the Contractor shall notify the Contracting Officer at the end of the six (6) month period if he has failed to file or caused to be filed a patent application covering such invention. If the Contractor has filed or caused to be filed such an application within the six (6) month period, but elects not to continue prosecution of such application, he shall notify the Contracting Officer not less than sixty (60) days before the expiration of the response period. In either of the situations covered by the two immediately-preceding sentences, the Government shall be entitled to all rights, title and interest in such Invention subject to the reservation to the Contractor of a license as specified in paragraph (b).

(2) The following statement shall be included within the first paragraph of any patent application filed and any patent issued on an Invention which was made under Government contract or subcontract thereunder: "The Invention herein described was made in the course of or under a contract or subcontract thereunder (or grant) with (here state the Department or Agency)."

(f) Foreign Filing of Patent Applications.

(1) If the Contractor acquires greater rights in a Subject Invention pursuant to paragraph (h) of this clause and has filed a United States patent application claiming the Invention, the Contractor, or those other than the Government deriving rights from the Contractor, shall as between the parties hereto, have the exclusive right, subject to the rights of the Government under paragraph (i) of this clause, to file applications on the Inventions in each foreign country within:

(i) nine (9) months from the date a corresponding United States patent application is filed;

(ii) six (6) months from the date permission is granted to file foreign applications where such filing has been prohibited for security reasons; or

(iii) such longer period as may be approved by the Contracting Officer.

The Contractor shall notify the Contracting Officer of each foreign application filed and, upon written request of the Contracting Officer, furnish an English translation of such application, and, convey to the Government the entire right, title and interest in the Invention in each foreign country in which an application has not been filed within the time specified above, subject to the reservation of a royalty-free license as specified in paragraph (b).

(2) If the Contractor does not acquire greater rights pursuant to paragraph (h) of this clause and the Government determines not to file a patent application on any Subject Invention (made by the Contractor) in any particular foreign country, the Contracting Officer, upon request of the Contractor, may authorize the Contractor to file a patent application on such Invention in such foreign country and retain ownership thereof, subject to an irrevocable, non-exclusive and royalty-free license to practice and have practiced such Subject Invention throughout the world for Governmental purposes, including the practice of each such Subject Invention (i) in the manufacture, use, and disposition of any article or material, (ii) in the use of any method, or (iii) in the performance of any service, acquired by or for the Government or with funds derived through the Military Assistance Program of the Government or funds otherwise derived through the Government.

(g) Withholding of Payment.

(1) Final payment under this contract shall not be made before the Contractor delivers to the Contracting Officer the final report required by (c)(1)(iii), all written invention disclosures required by (c)(1)(i), and all information as to subcontracts required by (d)(2).

(2) If at any time before final payment under this contract the Contractor fails to deliver an interim report required by (c)(1)(ii), or a written invention disclosure required by (c)(1)(i), the Contracting Officer shall withhold from payment \$50,000 or five percent (5%), of the amount of this contract whichever is less (or whatever lesser sum is available if payments have exceeded ninety five percent (95%) of the amount of this contract) until the Contractor corrects all such failures.

(3) After payments total eight percent (8%) of the amount of this contract, and if no amount is required to be withheld under (2) above, the Contracting Officer may, if he deems such action warranted because of the Contractor's performance under the Patent Rights clause of this contract or other known Government contracts, withhold from payment such sum as he considers appropriate, not exceeding \$50,000 or five percent (5%), of the amount of this contract which ever is less, to be held as a reserve until the Contractor delivers all the reports, disclosures, and information specified in (1) above. Subject to the five percent (5%) or \$50,000 limitation, the sum withheld under this subparagraph (3) may be increased or decreased from time to time at the discretion of the Contracting Officer.

(4) No amount shall be withheld under this paragraph (g) while the amount specified by this paragraph is being withheld under other provisions of this contract. The total amount withheld under (2) and (3) above shall not exceed \$50,000 or five percent (5%), of the amount of this contract whichever is less. The withholding of any amount or subsequent payment thereof to the Contractor shall not be construed as a waiver of any rights accruing to the Government under this contract. This paragraph shall not be construed as requiring the Contractor to withhold any amounts from a subcontractor to enforce compliance with the patent provisions of a subcontract. As used in this paragraph (g), "this contract" means "this contract as from time to time amended." In cost-type contracts, "amount of this contract" means "estimated cost of this contract."

(h) Contractor's Request for Greater Rights. The Contractor at the time of disclosing a Subject Invention pursuant to paragraph (c) of this clause, but not later than three (3) months thereafter, may submit in writing to the Contracting Officer, in accordance with applicable regulations, a request for greater rights in such Invention than the license reserved to the Contractor in paragraph (b) of this clause. Each such request shall include, but need not be limited to, information concerning the Contractor's intention and plan to bring the Invention to the point of commercial application. The Contracting Officer shall review the Contractor's request for greater rights and shall notify the Contractor whether, and the extent to which, such request is granted. Any rights granted to the Contractor shall be subject to the provisions of (i) of this clause.

(i) Reservation of Rights to the Government.

(1) In the event greater rights in any Subject Invention are vested in or granted to the Contractor pursuant to paragraph (h) above, such greater rights shall, as a minimum, be subject to an irrevocable, nonexclusive and royalty-free license to practice and have practiced each such Subject Invention (made by the Contractor) throughout the world for Governmental purposes, and including the practice of each such Subject Invention (i) in the manufacture, use, and disposition of any article or material, (ii) in the use of any method, or (iii) in the performance of any service, acquired by or for the Government or with funds derived through the Military Assistance Program of the Government or funds otherwise derived through the Government.

(2) In the event greater rights are vested in the Contractor, the Contractor further agrees to and does hereby grant to the Government the right to require the granting of a license to an applicant under any such Invention:

(i) on a nonexclusive, royalty-free basis, unless the Contractor, his licensee, or his assignee demonstrates to the Government, at its request, that effective steps have been taken within three (3) years after a patent issues on such Invention to bring the Invention to the point of practical application or that the Invention has been made available for licensing royalty-free or on terms that are reasonable in the circumstances, or can show cause why the title should be retained for a further period of time; or

(ii) royalty-free or on terms that are reasonable in the circumstances to the extent that the Invention is required for public use by Governmental regulations or as may be necessary to fulfill health needs, or for other public purposes stipulated in the Schedule of this contract.

(j) Right to Disclose Subject Inventions. The Government may duplicate and disclose reports and disclosures of Subject Inventions required to be furnished by the Contractor pursuant to this Patent Rights clause.

(k) Forfeiture of Rights in Unreported Subject Inventions. The Contractor shall forfeit to the Government all rights in any Subject Invention which he fails to report to the Contracting Officer at or prior to the time he (i) files or causes to be filed a United States or foreign application thereon, or (ii) submits the final report required by (c)(1)(iii) of this clause,

whichever is later; provided, that the Contractor shall not forfeit rights in a Subject Invention if (A) contending that the invention is not a Subject Invention, he nevertheless reports the invention and all the facts pertinent to his contention to the Contracting Officer within the time specified in (i) or (ii) above, or (B) he establishes that the failure to report was due entirely to causes beyond his control and without his fault or negligence. The Contractor shall be deemed to hold any such forfeited Subject Invention, and the patent applications and patents pertaining thereto, in trust for the Government pending written assignment of the Invention. The rights accruing to the Government under this paragraph shall be in addition to and shall not supersede any other rights which the Government may have in relation to unreported Subject Inventions. Nothing contained herein shall be construed to require the Contractor to report any invention which is not in fact a Subject Invention.

(1) Examination of Records Relating to Inventions. The Contracting Officer, or his authorized representative shall, until the expiration of three (3) years after final payment under this contract, have the right to examine any books, records, documents, and other supporting data of the Contractor which the Contracting Officer or his authorized representative shall reasonably deem directly pertinent to the discovery or identification of Subject Inventions or to compliance by the Contractor with the requirements of this clause.

DEPARTMENT OF DEFENSE CONTRACT SECURITY CLASSIFICATION SPECIFICATION <small>(Complete classified items by separate correspondence.)</small>		ELEMENTS OF THE DDC INDUSTRIAL SECURITY MANUAL APPLY TO THIS CONTRACT. SECURITY CLEARANCE REQUIRED FOR CONTRACT PERFORMANCE OR FOR ACCESS TO CLASSIFIED INFORMATION IS Secret	
2. THIS SPECIFICATION IS FOR:	3. CONTRACT NUMBER OR OTHER IDENTIFICATION NUMBER <small>(Prime contracts must be shown for all subcontracts)</small>	DATE TO BE COMPLETED <small>(Estimated)</small>	4. THIS SPECIFICATION IS: <small>(See note below)</small>
<input checked="" type="checkbox"/> a. PRIME CONTRACT	a. PRIME N0001L-69-1-0084		<input checked="" type="checkbox"/> a. ORIGINAL
<input type="checkbox"/> b. SUBCONTRACT <small>(Use Item 8 to identify further subcontracting)</small>	b. FIRST TIER SUBCONTRACT		<input type="checkbox"/> b. REVISED <small>(Supersedes all previous specifications)</small>
<input type="checkbox"/> c. INVITATION TO BID OR REQUEST FOR PROPOSAL	c. INVITATION FOR BID, REQUEST FOR PROPOSAL, OR REQUEST FOR QUOTE		<input type="checkbox"/> c. FINAL
5. IF THIS IS A FOLLOW-ON CONTRACT, ENTER PRECEDING CONTRACT NUMBER AND DATE COMPLETED		<input type="checkbox"/> DOES NOT APPLY	
CONTRACT NUMBER		DATE COMPLETED	
6a. NAME AND ADDRESS OF PRIME CONTRACTOR <small>(Include ZIP Code)</small> Random House, Inc. Old York & Moreland Roads Willow Grove, Pennsylvania 19010		b. NAME AND ADDRESS OF COGNIZANT SECURITY OFFICE <small>(Include ZIP Code)</small> Department of Defense Contract Administration Services Region Post Office Box 7478 Philadelphia, Pennsylvania 19101	
7a. NAME AND ADDRESS OF FIRST TIER SUBCONTRACTOR <small>(If applicable) (Include ZIP Code)</small> N/A <small>(Use Item 8 to identify further subcontracting)</small>		b. NAME AND ADDRESS OF COGNIZANT SECURITY OFFICE <small>(Include ZIP Code)</small> N/A	
8. SUBCONTRACTING BEYOND FIRST TIER <small>(as appropriate)</small> N/A			
9a. GENERAL IDENTIFICATION OF THE PROCUREMENT FOR WHICH THIS SPECIFICATION APPLIES The Effects of electromagnetic energy upon the nervous systems and on behavior			
b. CONTRACT PRESCRIBES SECURITY REQUIREMENTS WHICH ARE ADDITIONAL TO THOSE PRESCRIBED IN DD FORM 441 AND THE ISM <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
10. CONTRACT PERFORMANCE WILL REQUIRE	YES	NO	REMARKS
GRAPHIC ARTS SERVICES	<input checked="" type="checkbox"/>		
ACCESS TO CONTROLLED AREAS OR CLASSIFIED INFORMATION ONLY	<input checked="" type="checkbox"/>		
MANUFACTURE OF CLASSIFIED HARDWARE		<input checked="" type="checkbox"/>	
GENERATION, RECEIPT, OR CUSTODY OF CLASSIFIED DOCUMENTS OR OTHER MATERIAL	<input checked="" type="checkbox"/>		
ACCESS TO RESTRICTED DATA		<input checked="" type="checkbox"/>	
ACCESS TO CRYPTOGRAPHIC INFORMATION		<input checked="" type="checkbox"/>	
ACCESS TO COMMUNICATION ANALYSIS INFORMATION		<input checked="" type="checkbox"/>	
DEFENSE DOCUMENTATION CENTER OR DEFENSE INFORMATION ANALYSIS CENTER SERVICES MAY BE REQUESTED <small>(If yes, see paragraph T, app I, Industrial Security Manual.)</small>	<input checked="" type="checkbox"/>		
11. REFER ALL QUESTIONS PERTAINING TO CONTRACT SECURITY CLASSIFICATION SPECIFICATION TO THE OFFICIAL NAMED BELOW <small>(NORMALLY, thru ACO (Item 14b); EMERGENCY, direct with written record of inquiry and response to ACO) (thru prime contractor for subcontracts)</small>			
a. PROGRAM/PROJECT MANAGER OR ACTIVITY <small>(Name, Title, and Organization)</small> Gilbert E. ...		b. ADDRESS, TELEPHONE NUMBER AND OFFICE SYMBOL <small>(Include ZIP Code)</small> Physiology 43 Psychology Programs Office of Naval Research OX6-1056	
NOTE: Original Specification (Item 4a) is authority for contractors to mark classified information. Revised and Final Specifications (Items 4b and c) are authority for contractors to remark the regraded classified information. Such actions by contractors shall be taken in accordance with the provisions of the Industrial Security Manual.			

12. INFORMATION PERTAINING TO CLASSIFIED CONTRACTS OR PROJECTS, EVEN THOUGH SUCH INFORMATION IS CONSIDERED UNCLASSIFIED, SHALL NOT BE RELEASED FOR PUBLIC DISSEMINATION EXCEPT AS PROVIDED BY THE INDUSTRIAL SECURITY MANUAL (paragraph 5n and Appendix IX).

PROPOSED PUBLIC RELEASES SHALL BE SUBMITTED FOR APPROVAL PRIOR TO RELEASE ☐ DIRECT ☒ THROUGH (Specify)

Physiological Psychology Programs
Office of Naval Research (Code 454), Washington, D.C. 20360

TO THE DIRECTORATE FOR SECURITY REVIEW, OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE (Public Affairs)* FOR REVIEW IN ACCORDANCE WITH PARAGRAPH 5n OF THE INDUSTRIAL SECURITY MANUAL.

*In the case of non-DoD user agencies, see footnote, paragraph 5n, Industrial Security Manual.

13. SECURITY CLASSIFICATION SPECIFICATIONS FOR THIS CONTRACT ARE SET FORTH BELOW (Check which are applicable):

- ☐ DD FORM 254C ATTACHED (hereby made a part of this specification).
☐ DOCUMENT(S) LISTED BELOW (hereby made part of this specification).
☒ AS STATED BELOW

Technical reports classified as high as Secret may be supplied the contractor by ONR, DDC, other military agencies, and other DOD contractors. These reports may be retained for the duration of the contract unless no longer needed. When a report has served its purpose it should be destroyed in accordance with current security regulations, or returned to the originating activity (if required). Upon completion of the contract all remaining classified material will be destroyed in accordance with current security regulations unless retention has been requested and authorized in accordance with paragraph 5 of the Industrial Security Manual.

CONTRACT SECURITY CLASSIFICATION SPECIFICATIONS FOR SUBCONTRACTS ISSUING FROM THIS CONTRACT WILL BE APPROVED BY THE OFFICIAL NAMED IN ITEM 14b BELOW:

REQUIRED DISTRIBUTION:

- ☒ PRIME CONTRACTOR (Item 6a)
☐ COGNIZANT SECURITY OFFICE (Item 6b)
☒ ADMINISTRATIVE CONTRACTING OFFICE (Item 14b)
☐ MATERIAL INSPECTOR
☐ DIRECTOR, FEDERAL BUREAU OF INVESTIGATION
WASHINGTON, D.C. (Only for Items 2a and 2b)
(Attachments hereto not included.)
☐ SUBCONTRACTOR (Item 7a)
☐ COGNIZANT SECURITY OFFICE (Item 7b)

ADDITIONAL DISTRIBUTION:

☒ ONR Code 454

☐

14. THIS CONTRACT SECURITY CLASSIFICATION SPECIFICATION AND ATTACHMENTS REFERENCED HEREIN, APPROVED BY THE USER AGENCY CONTRACTING OFFICER OR HIS REPRESENTATIVE NAMED BELOW:

SIGNATURE

L. O. Lincoln

TYPED NAME AND TITLE OF APPROVING OFFICIAL
Contracting Officer

a. APPROVING OFFICIAL'S ACTIVITY AND ADDRESS (Include ZIP Code)
Office of Naval Research, Department of the
Navy, Arlington, Virginia 22217

b. NAME AND ADDRESS OF ADMINISTRATIVE CONTRACTING OFFICE (Include ZIP Code)
Commander, Defense Contract
Post Office Box 7478, Philadelphia Pa. 19101

lbp

AUG 25 1970

Randomline, Inc.
Old York & Moreland Roads
Willow Grove, Pennsylvania 19090

A. R. Zandel

NO0014-69-C-0181, P003

RANDOMLINE, INC.

Old York & Moreland Roads
Willow Grove, Penna. 19090

(215) OL 9-6228

August 14, 1970

Mr. L. O. Lincoln
Office of Naval Research (622)
Arlington, Va. 22217

Dear Mr. Lincoln:

Enclosed are the executed copies of contract N00014-69-C-0181
P003.

Sincerely,

A handwritten signature in cursive script that reads "A R Zandel".

A. R. Zandel

ARZ/bf



DEPARTMENT OF THE NAVY
OFFICE OF NAVAL RESEARCH
WASHINGTON, D. C. 20369
~~XXXXXXXXXXXXXXXXXXXX~~
Arlington, Virginia 22217

IN REPLY REFER TO
ONR:622:DGR:

mj

AUG 12 1970

Randomline, Inc.
Old York and Moreland Roads
Willow Grove, Pennsylvania 19090

Attention: A. R. Zandel
Subject: Contract

N00014-69-C-0181 P003

Gentlemen:

Four copies of the subject contractual document(s) are forwarded herewith. Three are for execution and one is for information and retention. If the terms and conditions thereof are acceptable to you, the three copies should be executed by you and returned to this Office, Attention: Code 622. Upon receipt, this material will be executed on behalf of the Government and a fully executed copy returned to you.

The Contractor's name as used in executing the document should be identical to that shown on the contract. If, however, the title shown is incorrect, it is requested that it be corrected to show the name in which the contract is executed and that this Office be so advised in order that the other copies may be corrected accordingly.

Your prompt execution and return of three copies of this document will be appreciated.

Sincerely yours,

L. O. LINCOLN

Encls:

1. Four (4) copies of the subject document(s)

RANDOMLINE, INC.

Old York & Moreland Roads
Willow Grove, Penna. 19090

(215) OL 9-6228

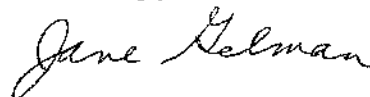
February 13, 1970

Mr. C. W. Hartley (code 622):
Office of Naval Research
Washington, D.C. 20360

Dear Mr. Hartley:

Enclosed are the two executed copies of amendment P002
of contract N00014-69-C-0181.

Sincerely,



Jane Gelman
Specialist

enc.
jg

STANDARD FORM 30, JULY 1966 GENERAL SERVICES ADMINISTRATION FED. PROC. REG. (41 CFR) 1-16.101		AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT					PAGE 1	OF 1																			
1. AMENDMENT/MODIFICATION NO. <div style="text-align: center;">P002</div>		2. EFFECTIVE DATE <div style="text-align: center;">70 Feb. 3</div>		3. REQUISITION/PURCHASE REQUEST NO. <div style="text-align: center;">NR 144-246(42)12-22-69 451</div>		4. PROJECT NO. (if applicable) <div style="text-align: center;">N. A.</div>																					
5. ISSUED BY Procuring Contracting Officer Office of Naval Research Department of the Navy Washington, D. C. 20360		CODE <div style="text-align: center;">00014</div>		6. ADMINISTERED BY (if other than block 5) Commander, Defense Contract Administration Ser- vices Region, Philadelphia P. O. Box 7478 Philadelphia, Pennsylvania 19101		CODE <div style="text-align: center;">39</div>																					
7. CONTRACTOR NAME AND ADDRESS <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> Randomline, Inc. York & Moreland Roads Willow Grove, Pennsylvania 19190 </div>		CODE <div style="text-align: center;">709653</div>		FACILITY CODE <div style="text-align: center;">1955 39</div>		8. <input type="checkbox"/> AMENDMENT OF SOLICITATION NO. N. A. DATED _____ (See block 9) <input checked="" type="checkbox"/> MODIFICATION OF CONTRACT/ORDER NO. N00014-69-C-0181 DATED 69 Feb. 15 (See block 11)																					
9. THIS BLOCK APPLIES ONLY TO AMENDMENTS OF SOLICITATIONS (N. A.) <input type="checkbox"/> The above numbered solicitation is amended as set forth in block 12. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended, <input type="checkbox"/> is not extended. Offerors must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation, or as amended, by one of the following methods: (a) By signing and returning _____ copies of this amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE ISSUING OFFICE PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If, by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided such telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.																											
<table border="1" style="width:100%; border-collapse: collapse; text-align: center;"> <tr> <th style="width:15%;">10. APPROPRIATION SYMBOL AND SUBHEAD</th> <th style="width:10%;">OBJ. CLASS</th> <th style="width:15%;">BUREAU CONTROL NO.</th> <th style="width:10%;">SUB-ALLOT.</th> <th style="width:15%;">AUTHOR'S ACCTG. ACT.</th> <th style="width:10%;">TRANS. TYPE</th> <th style="width:15%;">PROPERTY ACCTG. ACT.</th> <th style="width:10%;">COUNTRY</th> <th style="width:10%;">COST CODE</th> <th style="width:10%;">AMOUNT</th> </tr> <tr> <td colspan="10">NOT APPLICABLE</td> </tr> </table>								10. APPROPRIATION SYMBOL AND SUBHEAD	OBJ. CLASS	BUREAU CONTROL NO.	SUB-ALLOT.	AUTHOR'S ACCTG. ACT.	TRANS. TYPE	PROPERTY ACCTG. ACT.	COUNTRY	COST CODE	AMOUNT	NOT APPLICABLE									
10. APPROPRIATION SYMBOL AND SUBHEAD	OBJ. CLASS	BUREAU CONTROL NO.	SUB-ALLOT.	AUTHOR'S ACCTG. ACT.	TRANS. TYPE	PROPERTY ACCTG. ACT.	COUNTRY	COST CODE	AMOUNT																		
NOT APPLICABLE																											
11. THIS BLOCK APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS (a) <input type="checkbox"/> This Change Order is issued pursuant to _____ The Changes set forth in block 12 are made to the above numbered contract/order. (b) <input type="checkbox"/> The above numbered contract/order is modified to reflect the administrative changes (such as changes in paying office, appropriation data, etc.) set forth in block 12. (c) <input checked="" type="checkbox"/> This Supplemental Agreement is entered into pursuant to authority of 10 U.S.C. 2304 (a) (1) It modifies the above numbered contract as set forth in block 12.																											
12. DESCRIPTION OF AMENDMENT/MODIFICATION In order to aid the research being conducted under Contract N00014-69-C-0181 it is the desire of the Government and the Contractor that certain items of Government-Furnished Property be loaned to the Contractor. To accomplish this, said contract as modified, is hereby further modified as set forth on the attached pages and made a part hereof.																											
Except as provided herein, all terms and conditions of the document referenced in block 8, as heretofore changed, remain unchanged and in full force and effect.																											
13. <input type="checkbox"/> CONTRACTOR/OFFEROR IS NOT REQUIRED TO SIGN THIS DOCUMENT <input checked="" type="checkbox"/> CONTRACTOR/OFFEROR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN 2 COPIES TO ISSUING OFFICE																											
14. NAME OF CONTRACTOR/OFFEROR BY _____ (Signature of person authorized to sign)				17. UNITED STATES OF AMERICA BY _____ (Signature of Contracting Officer)																							
15. NAME AND TITLE OF SIGNER (Type or print)		16. DATE SIGNED		18. NAME OF CONTRACTING OFFICER (Type or print)		19. DATE SIGNED																					

CONTRACT NUMBER: N00014-69-C-0181
MODIFICATION NO.: P002

1. Effective as of the date of this Modification, add the following new Section to the Schedule:

"SECTION C - GOVERNMENT-FURNISHED PROPERTY

"The Government will furnish to the Contractor as Government-Furnished Property for use under this contract, the following:

<u>Item No.</u>	<u>Description</u>	<u>Cost</u>
1	Data Analysis System consisting of the following listed items incorporated into system: USN-1-0341 Camera Polaroid, Model 104 USN-6-0341 Computer of Average Transients, Model 1000 USN-7-0341 Transducer Stratham USN-10-0341 Senior Veitohmyst USN-13-0341 Audio Generator, RCA Model WA-44-C USN-17-0341 Electrometer, Keithly 610A USN-20-0341 Power Supply, P-S-12/24 USN-25-0341 Culmotive Recorder, Gerbrand USN-33-0341 Scope Camera, Tektronix C-12 USN-36-0341 Stop Watch USN-49-0341 Camera USN-53-0341 Dynograph, Beckman Model 541, S/N 297 USN-54-0341 Biological Amplifier, Model DS2C USN-55-0341 Recorder, Esterline-Angus, Model A620A USN-56-0341 Dictating Machine, IBM, S/N 513583 USN-57-0341 Oscilloscope, Tektronix Model 565 with (1) 2A61 and (1) 2A63 Amplifier USN-63-0341 Screen Room	-

CONTRACT NUMBER: N00014-69-C-0181
MODIFICATION NO.: PO02

<u>Item No.</u>	<u>Description</u>	<u>Cost</u>
2	Specimen Set-up System consisting of the following items incorporated into system:	-
	USN-3-0341 Pressure Cooker	
	USN-4-0341 Respiration Regulator	
	USN-5-0341 Pipette Puller, KOPF	
	USN-11-0341 Laryngoscope	
	USN-12-0341 Blood Pressure Gauge	
	USN-22-0341 Motor, Part of Rat Box, Newark CMO	
	USN-30-0341 1/2" Electric Drill, W/Stand, Craftsman	
	USN-31-0341 Bovine Electrocautery	
	USN-32-0341 Stereotaxic Instrument, KOPF 1204	
	USN-34-0341 Ministruer Micromanipulator, Model MM-3	
	USN-35-0341 Balance Scale, Ohaus, Model 3502	
	USN-38-0341 Microscope, B & L Model 313353-	
	USN-39-0341 Pump, Cole Parameter, 7064-5	
	USN-42-0341 Cat Skeleton	
	USN-43-0341 Vaporizer	
	USN-44-0341 Electrical Drill, Osteological	
	USN-45-0341 Ear Bars, (Part of USN-32-0341)	
	USN-46-0341 Regulator, 306-0071-800	
	USN-48-0341 Bright Spot Headlight	
	USN-58-0341 Transducer, Grass FT-03B	
	USN-60-0341 Balance Scale, SEKO, Model 1137	
	USN-61-0341 Laboratory Oven, LaPine 317-85	

CONTRACT NUMBER:
MODIFICATION NO.:

N00014-69-C-0181
P002

<u>Item No.</u>	<u>Description</u>	<u>Cost</u>
3	Behavioral Assay System consisting of the following items incorporated into system: USN-8-0341 Program Timer TM-15K391 USN-9-0341 L Band Oscillator, Applied Microwave USN-14-0341 Laboratory Simulator AEL Model 104A USN-15-0341 Photic Simulator, AEL Model 127 USN-16-0341 Stimulus Isolator, AEL Model 112 USN-18-0341 Power Oscillator, Microdot 411A USN-19-0341 Coax To Waveguide Adapter, Scientific Atlanta USN-21-0341 Lo Power Terminator, Microlab TA5MB USN-23-0341 Coax Attenuator, Empore AT50-10 USN-24-0341 Coax Attenuator, Empire AT50-40 USN-26-0341 Lo-Pass Filter, H/P Model 360A USN-27-0341 Thermistor Mount, H/P Model 477B USN-29-0341 Bench Saw W/Motor Craftsman USN-37-0341 Programmer, Fohringer 1182M1 USN-41-0341 40 Drawer Parts Cabinet USN-51-0341 Programmer, Forhinger USN-52-0341 Programmer, Forhinger USN-59-0341 Pellet Dispenser, Forhinger USN-62-0341 Horn Antenna, Model 11-1-1	-



DEPARTMENT OF THE NAVY
OFFICE OF NAVAL RESEARCH
WASHINGTON, D. C. 20360

IN REPLY REFER TO
ONR:622:mj
FEB 05 1970

Randomline, Inc.
York & Moreland Roads
Willow Grove, Pennsylvania 19090

Attention: Allan H. Frey

Subject: Contract N00014-69-C-0181 P002

Gentlemen:

Three(3) copies of the subject contractual document are forwarded herewith. These documents have been executed on behalf of the Government. If the terms and conditions are acceptable to you, please execute all three (3) copies and return two (2) copies to this office, Attention: Code 622.

Your prompt execution and return of the enclosed documents to this office will be appreciated.

Sincerely yours,
C. W. HARTLEY
Contracting Officer

Encls:
1. Three (3) copies each
of the following documents:

RANDOM LINE INC

IN SYSTEM

plz get out a room
as possible.

DM

1271

Mod. P002 to 69-C-0181

Send Copy to DCRP-CMC

Thomas J. Luglio
at DCA&R by copy

~~2316 (1)~~

~~DTF-630~~

DEPARTMENT OF THE NAVY

Memorandum

DATE: 12 January 1970

FROM : ONR Code 616K- L. Duncker

TO : ONR Code 626A - N. Moreland

SUBJ : Transfer of property from old Contract N00014-66-C-0341 with H&B-SINGER, INC. to
Contract N00014-69-C-0181 with Randomline, Inc.

1. Attached hereto is copy of a PR with letter from Randomline and a list of the property requested.
2. Please advise if the property is available for transfer to the Randomline contract and will you effect the transfer when the modification has been processed and executed.

L. Duncker

Property OK.

Notify 626 for NRSO when colint is forwarded for execution
over

RESEARCH AND TECHNOLOGY WORK UNIT SUMMARY						1. AGENCY ACCESSION*		2. D F SUMMARY*		REPORT CONTROL SYMBOL	
3. DATE PREV SUMMARY		4. KIND OF SUMMARY		5. SUMMARY SCTY*		6. WORK SECURITY*		7. REGRADING*		8. DISB'N INSTR'N	
6 Aug 69		D. CHANGE		U		U		NA		NL	
10. NO./CODES*		PROGRAM ELEMENT		PROJECT NUMBER		TASK AREA NUMBER		8b. SPECIFIC DATA - CONTRACTOR ACCESS		9. LEVEL OF SUM	
a. PRIMARY		61102K		BR006-02		BR006-02-02		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		A. WORK UNIT	
b. CONTRIBUTING											
c. CONTRIBUTING											
11. TITLE (Precede with Security Classification Code)*											
(U) PERSONNEL TECHNOLOGY: The Effects of Ionized Air and Radio Energy upon the Performance of Naval Personnel.											
12. SCIENTIFIC AND TECHNOLOGICAL AREAS*											
013400 Psychology; 002400 Bioengineering; 016200 Stress Physiology;											
13. START DATE				14. ESTIMATED COMPLETION DATE				15. FUNDING AGENCY		16. PERFORMANCE METHOD	
Feb 69				CONT				DM		B. Contract	
17. CONTRACT/GRANT											
a. DATES/EFFECTIVE:											
b. NUMBER:*											
c. TYPE:											
d. KIND OF AWARD: SUP											
18. RESOURCES ESTIMATE											
a. PROFESSIONAL MAN YRS											
b. FUNDS (in thousands)											
19. RESPONSIBLE DOD ORGANIZATION											
20. PERFORMING ORGANIZATION											
21. GENERAL USE											
22. KEYWORDS (Precede EACH with Security Classification Code)											
(U) (U) Personnel Technology; (U) Air ions; (U) electromagnetic energy; (U) Nervous system; (U) Electrophysiological;											
23. TECHNICAL OBJECTIVE,* 24. APPROACH, 25. PROGRESS (Furnish individual paragraphs identified by number. Precede text of each with Security Classification Code.)											
23. (U) Within the Navy, there are many relatively closed spaces in which personnel are exposed to varying levels of electromagnetic radiation and/or ionized air which could affect individual performance. This work unit is concerned with the effects of exposure to radio frequency energy and ionized air on neural activity and behavior.											
24. (U) Work planned for the coming year includes (1) experiments on the mechanisms of the neural effect of radar wavelength energy, (2) additional experiments on the effects of exposure to radio frequency energy on heart function, and (3) further work on the relationship between air ionization and olfaction.											
25. (U) The electrostatic environment (subject, equipment, walls, etc.) influence the outcome of experiments in olfaction and aerosol deposition. The electrical response of olfactory tissue to odorants also was demonstrated to be a function, in part, of the method of delivery. By controlling the environment and stimulus delivery methods, rather different electrical responses have been recorded than previously found. If confirmed, these data will require new interpretation of the electrical response and probably of the mechanism of olfaction. An improved experimental system for examining the effects of radio frequency energy on heart function has been set up and debugged.											

*Available to contractors upon originator's approval.

RANDOMLINE, INC.

Old York & Moreland Roads
Willow Grove, Penna. 19090

(215) OL 9-6228

December 3, 1969

Physiological Psychology Program
Office of Naval Research (454)
Washington, D. C.

Dear Sir:

We wish to request that contract N00014-69-C-0181-P001 be amended to provide Randomline, Inc with the three special systems detailed on the attached.

As we stated in our proposal, we would expand the scope of the work into the area of electrical gradient phenomena at no additional cost if these unique systems were provided to us. In as much as the Scientific Officer can now provide the systems and wishes us to expand the scope of the work as soon as the contract can be amended, we are submitting this request.

Beside the experimentation with crustaceans and cardiac response to rf energy to which we are now contractually committed, we will expand the scope of the work to do in addition a study on electrical gradient manipulation and effect on the olfactory mucosa response if these systems are provided. We will evaluate the gradient effect on the EOG and higher neural interactions.

This additional work has considerable significance to the Navy and direct application to certain problems in submarines as well as other applications. It is expected that the data that would result would have bearing on long term habitability aboard ships and lead to means to increase personnel effectiveness.

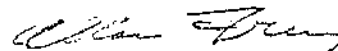
Randomline will not profit from the provision of these unique systems. These systems were specially developed and assembled for the Navy at considerable cost to the government and can only be used in this particular application. They can not be used for general purposes in system form. Neither can the individual components be used since they were radically modified in integrating them into the systems and they can not be returned to their original state.

In as much as HRB-Singer used the systems locally (the HRB project director who is now employed by us used them in the adjacent township), we can take on accountability for the systems without incurring shipping costs against ourselves or the government.

HRB Singer
Contract N00014-66-C-0341

Thus, it would be in the best interest of the Government to expeditiously provide the unique systems developed at considerable cost to the government, so that we can expand the scope of the work by adding the additional task for which the systems were designed. This is a task whose results will have wide application and be of considerable significance to the Navy.

Sincerely,



Allan H. Frey

AHF/bf

1 of 2

Systems

The system components listed are not in the condition as purchased several years ago. Most of them lack parts that were discarded in the building of these systems, have extensive wiring and subcomponent changes for which there are no schematics, require auxiliary equipment to operate due the changes made in them (said auxiliary equipment and specifications are not included) or have mechanical changes that limit their function. There are no instruction books available on these special purpose systems to provide information on switch sequencing, allowable or necessary voltages, application, etc.

1 Data Analysis System consisting of the following listed items of Government Furnished Property incorporated into system:

USN-1-0341 Camera Polaroid, Model 104
USN-6-0341 Computer of Average Transients, Model 1000
USN-7-0341 Transducer, Stratham
USN-10-0341 Senior Logomyst
USN-13-0341 Audio Generator, RCA Model WA-44-C
USN-17-0341 Electrometer, Keithly 610A
USN-20-0341 Power Supply, P-S-12/24
USN-25-0341 Culmotive Recorder, Gerbrand
USN-33-0341 Scope Camera, Tektronix C-12
USN-36-0341 Stop Watch
USN-49-0341 Camera
USN-53-0341 Dynograph, Beckman Model 542, S/N 297
USN-54-0341 Biological Amplifier, Model DS2C
USN-55-0341 Recorder, Esterline-Angus, Model A620A
USN-56-0341 Dictating Machine, IBM, S/N 513583
USN-57-0341 Oscilloscope, Tektronix Model 565 with (1) 2A61 and (1) 2A63 Amplifier
USN-63-0341 Screen Room

USN-5-0341 Pipette Fuller, KOPF
USN-11-0341 Laryngoscope
USN-12-0341 Blood Pressure Gauge
USN-22-0341 Motor, Part of Rad Box, Newark CMO
USN-30-0341 1/2" Electric Drill, W/Stand, Craftsman
USN-31-0341 Bovine Electrocautéry
USN-32-0341 Stereotóxic Instrument, KOPF 1204
USN-34-0341 Ministrus Micromanipula Model MM-3
USN-35-0341 Balance Scale, Ohaus, Model 3502
USN-38-0341 Microscope, B & L Model 313353
USN-39-0341 Pump, Cole Parameter, 7064-5
USN-42-0341 Cat Skeleton
USN-43-0341 Vaporizer
USN-44-0341 Electrical Drill, Osteological
USN-45-0341 Ear Bars, (Part of USN-32-0341)
USN-46-0341 Regulator, 306-0071-800
USN-48-0341 Bright Spot Headlight
USN-58-0341 Transducer, Grass FT-03
USN-60-0341 Balance Scale, SEKO, Model 1137
USN-61-0341 Laboratory Oven, LaFine 317-85

3 Behavioral Assay System consisting of the following items of Government Furnished Property incorporated into system:

USN-8-0341 Program Timer, TV-15V201

2 Specimen Set-up System consisting of the following items of Government Furnished Property incorporated into system:

USN-15-0341 Photocell Detector,
 Model 127
 USN-16-0341 Stimulus Generator,
 AEL Model 112
 USN-18-0341 Power Generator,
 Microdot 411A
 USN-19-0341 Coaxial Waveguide
 Adaptor, Scientific Instrument
 USN-21-0341 Low Power Terminator,
 Microlab TASMB
 USN-23-0341 Coax Attenuator,
 Empire AT50-10
 USN-24-0341 Coax Attenuator,
 Empire AT50-40
 USN-26-0341 Low-Pass Filter,
 H/P Model 360A
 USN-27-0341 Thermistor Mount,
 H/P Model 477B
 USN-29-0341 Bench Saw W/Motor
 Craftsman
 USN-37-0341 Programmer, Fohringer
 1182M1
 USN-41-0341 40 Drawer Parts Cabinet
 USN-51-0341 Programmer,
 Fohringer
 USN-52-0341 Programmer,
 Fohringer
 USN-59-0341 Pellet Dispenser,
 Fohringer
 USN-62-0341 Horn Antenna,
 Model 11-1-1

STANDARD FORM 30, JULY 1966 GENERAL SERVICES ADMINISTRATION FED. PROC. REG. (41 CFR) 1-16.101		AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT						PAGE 1 OF 1																					
1. AMENDMENT/MODIFICATION NO. <div style="text-align: center;">P001</div>		2. EFFECTIVE DATE <div style="text-align: center;">69 Sept. 8</div>		3. REQUISITION/PURCHASE REQUEST NO. <div style="text-align: center;">NR 144-246/8-6-69 (454)</div>		4. PROJECT NO. (if applicable) <div style="text-align: center;">N. A.</div>																							
5. ISSUED BY Procuring Contracting Officer Office of Naval Research Department of the Navy Washington, D. C. 20380		CODE 00014		6. ADMINISTERED BY (if other than block 5) Commander, Defense Contract Administration Services Region Post Office Box 7478 Philadelphia, Pennsylvania 19101		CODE 39																							
7. CONTRACTOR NAME AND ADDRESS Randomline, Inc. Glenside Avenue and Limekiln Pike Glenside, Pennsylvania 19038		CODE 709653		FACILITY CODE 1955 39		8. <input type="checkbox"/> AMENDMENT OF SOLICITATION NO. N. A. DATED _____ (See block 9) <input checked="" type="checkbox"/> MODIFICATION OF CONTRACT/ORDER NO. N00014-69-C-0181 DATED 69 Feb. 15 (See block 11)																							
9. THIS BLOCK APPLIES ONLY TO AMENDMENTS OF SOLICITATIONS (N. A.) <input type="checkbox"/> The above numbered solicitation is amended as set forth in block 12. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended, <input type="checkbox"/> is not extended. Offerors must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation, or as amended, by one of the following methods: (a) By signing and returning _____ copies of this amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE ISSUING OFFICE PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If, by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided such telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.																													
<table border="1" style="width:100%; border-collapse: collapse; font-size: small;"> <thead> <tr> <th>10. APPROPRIATION SYMBOL AND SUBHEAD</th> <th>OBJ. CLASS</th> <th>BUREAU CONTROL NO.</th> <th>SUB-ALLOT.</th> <th>AUTHOR'N ACCTG. ACT.</th> <th>TRANS. TYPE</th> <th>PROPERTY ACCTG. ACT.</th> <th>COUNTRY</th> <th>COST CODE</th> <th>AMOUNT</th> </tr> </thead> <tbody> <tr> <td>17X1319.1401</td> <td>25</td> <td>12501</td> <td>-</td> <td>14</td> <td>2B</td> <td>-</td> <td>-</td> <td>1K54</td> <td>\$20,930.00</td> </tr> </tbody> </table>										10. APPROPRIATION SYMBOL AND SUBHEAD	OBJ. CLASS	BUREAU CONTROL NO.	SUB-ALLOT.	AUTHOR'N ACCTG. ACT.	TRANS. TYPE	PROPERTY ACCTG. ACT.	COUNTRY	COST CODE	AMOUNT	17X1319.1401	25	12501	-	14	2B	-	-	1K54	\$20,930.00
10. APPROPRIATION SYMBOL AND SUBHEAD	OBJ. CLASS	BUREAU CONTROL NO.	SUB-ALLOT.	AUTHOR'N ACCTG. ACT.	TRANS. TYPE	PROPERTY ACCTG. ACT.	COUNTRY	COST CODE	AMOUNT																				
17X1319.1401	25	12501	-	14	2B	-	-	1K54	\$20,930.00																				
11. THIS BLOCK APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS (a) <input type="checkbox"/> This Change Order is issued pursuant to _____ The Changes set forth in block 12 are made to the above numbered contract/order. (b) <input type="checkbox"/> The above numbered contract/order is modified to reflect the administrative changes (such as changes in paying office, appropriation data, etc.) set forth in block 12. (c) <input checked="" type="checkbox"/> This Supplemental Agreement is entered into pursuant to authority of 10 U.S.C. 2304 (a) (1) It modifies the above numbered contract as set forth in block 12.																													
12. DESCRIPTION OF AMENDMENT/MODIFICATION <p>It is the desire of the Government and the Contractor that additional research on behavioral biophysics be performed. To accomplish this, there are hereby provided an increase in the price of Contract N00014-69-C-0181, and an extension in the period of performance thereof.</p> <p>In consideration of the foregoing, said contract is hereby modified as set forth in the pages attached hereto and made a part hereof.</p>																													
Except as provided herein, all terms and conditions of the document referenced in block 8, as heretofore changed, remain unchanged and in full force and effect.																													
13. <input type="checkbox"/> CONTRACTOR/OFFEROR IS NOT REQUIRED TO SIGN THIS DOCUMENT <input checked="" type="checkbox"/> CONTRACTOR/OFFEROR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN 3 COPIES TO ISSUING OFFICE																													
14. NAME OF CONTRACTOR/OFFEROR					17. UNITED STATES OF AMERICA																								
BY _____ (Signature of person authorized to sign)					BY _____ (Signature of Contracting Officer)																								
15. NAME AND TITLE OF SIGNER (Type or print)			16. DATE SIGNED		18. NAME OF CONTRACTING OFFICER (Type or print)			19. DATE SIGNED																					

CONTRACT NUMBER: J0014-69-C-0181
MODIFICATION NO.: P001

1. On the face page of the contract, in Block Number 21, delete the figure "\$20,680.00," and substitute in lieu thereof the figure "\$41,610.00."
2. Under Section B of the Schedule, delete Line Items No. 1AA through 1AF in their entirety and substitute in lieu thereof the following:

"1AA - See Section F - through 15 August 1969	\$10,200.00
1AB - See Section F - 15 October 1969	3,490.00
1AC - See Section F - 15 December 1969	3,490.00
1AD - See Section F - 15 February 1970	3,490.00
1AE - See Section F - 15 April 1970	3,490.00
1AF - See Section F - 15 June 1970	3,490.00
1AG - See Section F - 15 August 1970	3,490.00
1AH - See Section F - 15 October 1970	3,490.00
1AI - See Section F - 15 December 1970	3,490.00
1AJ - See Section F - Upon completion of work and submission of final report	<u>3,490.00</u>
TOTAL	\$41,610.00."

3. Delete Section C of the Schedule in its entirety and substitute in lieu thereof the following:

"SECTION C - PERIOD OF PERFORMANCE

"The performance of work hereunder shall commence on 15 February 1969, and shall be completed on 14 February 1971."

4. Effective as of the date of this Modification, clause 42 of the contract, entitled "Patent Rights," shall read as follows:

"42. PATENT RIGHTS

"The following provisions shall apply to the work to be performed under this contract:

(a) Definitions Used in this Clause.

(1) Subject Invention means any invention or discovery, whether or not patentable, conceived or first actually reduced to practice in the course of or under this contract. The term "Subject Invention" includes, but is not limited to, any art, method, process, machine, manufacture, design or composition of matter, or any new and useful improvement thereof, or any variety of plant, which is or may be patentable under the patent laws of the United States of America or any foreign country.

(2) Governmental purpose means the rights of the Government of the United States (including any agency thereof, state or domestic municipal government) to practice and have practiced (make or have made, use or have used, sell or have sold) any Subject Invention throughout the world by or on behalf of the Government of the United States.

(3) Contract means any contract, agreement, grant, or other arrangement, or subcontract entered into with or for the benefit of the Government where a purpose of the contract is the conduct of experimental, developmental, or research work.

(4) Subcontract and subcontractor mean any subcontract or subcontractor of the Contractor, any lower-tier subcontract or subcontractor under this contract.

(5) To bring to the point of practical application means to manufacture in the case of a composition or product, to practice in the case of a process, or to operate in the case of a machine or system and, in each case, under such conditions as to establish that the invention is being worked and that its benefits are reasonably accessible to the public.

(b) Rights Granted to the Government. Except as provided in (e) and (h) of this clause, the Contractor agrees to grant the Government all right, title and interest in and to each Subject Invention (made by the Contractor), subject to the reservation of a nonexclusive and royalty-free license to the Contractor. The license shall extend to existing and future associated and affiliated companies, if any, within the corporate structure of which the Contractor is a part and shall be assignable to the successor of that part of the Contractor's business to which such Invention pertains. Nothing contained in this Patent Rights clause shall be deemed to grant any rights with respect to any invention other than a Subject Invention.

(c) Invention Disclosures and Reports.

(1) With respect to Subject Inventions (made by the Contractor), except those which are obviously unpatentable under the patent laws of the United States, the Contractor shall furnish to the Contracting Officer:

(i) a written disclosure of each invention within six (6) months after conception or first actual reduction to practice, whichever occurs first under this contract, sufficiently complete in technical detail to convey to one skilled in the art to which the Invention pertains a clear understanding of the nature, purpose, operation, and to the extent known the physical, chemical, or electrical characteristics of the Invention; when unable to submit a complete disclosure, the Contractor shall within said six (6) month period submit a disclosure which includes all such technical detail then known to him and shall, unless the Contracting Officer authorizes a different period, submit all other technical detail necessary to complete the disclosure within three (3) months of the expiration of said six (6) month period;

(ii) interim reports at least every twelve (12) months, the initial period of which shall commence with the date of this contract, each report listing all such Inventions conceived or first actually reduced to practice more than six (6) months prior to the date of the report and not listed on a prior interim report, or certifying that there are no such unreported Inventions;

(iii) prior to final settlement of this contract, a final report listing all such Inventions including all those previously listed in interim reports, or certifying that there are no such unreported Inventions (This Final Report and any Interim Report under (ii) above shall be submitted on DD Form 882 or other format acceptable to the Contracting Officer.);

(iv) information in writing, as soon as practicable, of the date and identity of any public use, sale, or publication of such Invention made by or known to the Contractor or of any contemplated publication by the Contractor;

(v) upon request, such duly executed instruments and other papers (prepared by the Government) as are deemed necessary to vest in the Government the rights granted it under this clause and to enable the Government to apply for and prosecute any patent application, in any country, covering such Invention where the Government has the right under this clause to file such application; and

(vi) upon request, an irrevocable power of attorney to inspect and make copies of each United States patent application filed by, or on behalf of, the Contractor covering any such Invention.

(2) With respect to each Subject Invention in which the Contractor has been granted greater rights under paragraph (h) of this clause, the Contractor agrees to provide written reports at reasonable intervals, when requested by the Government as to:

(i) the commercial use that is being made or is intended to be made of such Invention;

(ii) the steps taken by the Contractor to bring the Invention to the point of practical application, or to make the Invention available for licensing.

(d) Subcontracts.

(1) The Contractor shall, unless otherwise authorized or directed by the Contracting Officer, include a patent rights clause containing all the provisions of this Patent Rights clause except provision (g) in any subcontract hereunder where a purpose of the subcontract is the conduct of experimental, developmental, or research work. In the event of refusal by a subcontractor to accept this Patent Rights clause, or if in the opinion of the Contractor this Patent Rights clause is inconsistent with the policy set forth in ASPR 9-107.2 and 9-107.3, the Contractor:

(i) shall promptly submit a written report to the Contracting Officer setting forth the subcontractor's reasons for such refusal or the reasons Contractor is of the opinion that the inclusion of this clause would be so inconsistent, and other pertinent information which may expedite disposition of the matter; and

(ii) shall not proceed with the subcontract without the written authorization of the Contracting Officer.

The Contractor shall not, in any subcontract or by using such a subcontract as consideration therefor, acquire any rights to Subject Inventions for his own use (as distinguished from such rights as may be required solely to fulfill his contract obligations to the Government in the performance of this contract). Reports, instruments, and other information required to be furnished by a subcontractor to the Contracting Officer under the provisions of such a patent rights clause in a subcontract hereunder may, upon mutual consent of the Contractor and the subcontractor (or by direction of the Contracting Officer) be furnished to the Contractor for transmission to the Contracting Officer.

(2) The Contractor, at the earliest practicable date, shall also notify the Contracting Officer in writing of any subcontract containing a patent rights clause, furnish to the Contracting Officer a copy of such subcontract, and notify him when such subcontract is completed. It is understood that the Government is a third party beneficiary of any subcontract clause granting rights to the Government in Subject Inventions, and the Contractor hereby assigns to the Government all the rights that the Contractor would have to enforce the subcontractor's obligations for the benefit of the Government with respect to Subject Inventions. If there are no subcontracts containing patent rights clauses, a negative report is required. The Contractor shall not be obligated to enforce the agreements of any subcontractor hereunder relating to the obligations of the subcontractor to the Government in regard to Subject Inventions.

(e) Domestic Filing of Patent Applications by Contractor.

(1) If greater rights are granted in and to a Subject Invention pursuant to paragraph (h) of this clause, the Contractor shall file in due form and within six (6) months of the granting of such greater rights a United States Patent application claiming the Invention referred to in said paragraph, and shall furnish, as soon as practicable, the serial number and filing date of

CONTRACT NUMBER: N00014-69-C-0181
MODIFICATION NO.: P001

each such application and the patent number of any resulting patent. As to each Invention in which the Contractor has been given greater rights, the Contractor shall notify the Contracting Officer at the end of the six (6) month period if he has failed to file or caused to be filed a patent application covering such invention. If the Contractor has filed or caused to be filed such an application within the six (6) month period, but elects not to continue prosecution of such application, he shall notify the Contracting Officer not less than sixty (60) days before the expiration of the response period. In either of the situations covered by the two immediately-preceding sentences, the Government shall be entitled to all rights, title and interest in such Invention subject to the reservation to the Contractor of a license as specified in paragraph (b).

(2) The following statement shall be included within the first paragraph of any patent application filed and any patent issued on an Invention which was made under Government contract or subcontract thereunder: "The Invention herein described was made in the course of or under a contract or subcontract thereunder (or grant) with (here state the Department or Agency)."

(f) Foreign Filing of Patent Applications.

(1) If the Contractor acquires greater rights in a Subject Invention pursuant to paragraph (h) of this clause and has filed a United States patent application claiming the Invention, the Contractor, or those other than the Government deriving rights from the Contractor, shall as between the parties hereto, have the exclusive right, subject to the rights of the Government under paragraph (i) of this clause, to file applications on the Inventions in each foreign country within:

(i) nine (9) months from the date a corresponding United States patent application is filed;

(ii) six (6) months from the date permission is granted to file foreign applications where such filing has been prohibited for security reasons; or

(iii) such longer period as may be approved by the Contracting Officer.

The Contractor shall notify the Contracting Officer of each foreign application filed and, upon written request of the Contracting Officer, furnish an English translation of such application, and, convey to the Government the entire right, title and interest in the Invention in each foreign country in which an application has not been filed within the time specified above, subject to the reservation of a royalty-free license as specified in paragraph (b).

(2) If the Contractor does not acquire greater rights pursuant to paragraph (h) of this clause and the Government determines not to file a patent application on any Subject Invention (made by the Contractor) in any particular foreign country, the Contracting Officer, upon request of the Contractor, may authorize the Contractor to file a patent application on such Invention in such foreign country and retain ownership thereof, subject to an irrevocable, non-exclusive and royalty-free license to practice and have practiced such Subject Invention throughout the world for Governmental purposes, including the practice of each such Subject Invention (i) in the manufacture, use, and disposition of any article or material, (ii) in the use of any method, or (iii) in the performance of any service, acquired by or for the Government or with funds derived through the Military Assistance Program of the Government or funds otherwise derived through the Government.

(g) Withholding of Payment.

(1) Final payment under this contract shall not be made before the Contractor delivers to the Contracting Officer the final report required by (c)(1)(iii), all written invention disclosures required by (c)(1)(i), and all information as to subcontracts required by (d)(2).

(2) If at any time before final payment under this contract the Contractor fails to deliver an interim report required by (c)(1)(ii), or a written invention disclosure required by (c)(1)(i), the Contracting Officer shall withhold from payment \$50,000 or five percent (5%), of the amount of this contract whichever is less (or whatever lesser sum is available if payments have exceeded ninety five percent (95%) of the amount of this contract) until the Contractor corrects all such failures.

(3) After payments total eighty percent (80%) of the amount of this contract, and if no amount is required to be withheld under (2) above, the Contracting Officer may, if he deems such action warranted because of the Contractor's performance under the Patent Rights clause of this contract or other known Government contracts, withhold from payment such sum as he considers appropriate, not exceeding \$50,000 or five percent (5%), of the amount of this contract whichever is less, to be held as a reserve until the Contractor delivers all the reports, disclosures, and information specified in (1) above. Subject to the five percent (5%) or \$50,000 limitation, the sum withheld under this subparagraph (3) may be increased or decreased from time to time at the discretion of the Contracting Officer.

(4) No amount shall be withheld under this paragraph (g) while the amount specified by this paragraph is being withheld under other provisions of this contract. The total amount withheld under (2) and (3) above shall not exceed \$50,000 or five percent (5%), of the amount of this contract whichever is less. The withholding of any amount or subsequent payment thereof to the Contractor shall not be construed as a waiver of any rights accruing to the Government under this contract. This paragraph shall not be construed as requiring the Contractor to withhold any amounts from a subcontractor to enforce compliance with the patent provisions of a subcontract. As used in this paragraph (g), "this contract" means "this contract as from time to time amended." In cost-type contracts, "amount of this contract" means "estimated cost of this contract."

(h) Contractor's Request for Greater Rights. The Contractor at the time of disclosing a Subject Invention pursuant to paragraph (c) of this clause, but not later than three (3) months thereafter, may submit in writing to the Contracting Officer, in accordance with applicable regulations, a request for greater rights in such Invention than the license reserved to the Contractor in paragraph (b) of this clause. Each such request shall include, but need not be limited to, information concerning the Contractor's intention and plan to bring the Invention to the point of commercial application. The Contracting Officer shall review the Contractor's request for greater rights and shall notify the Contractor whether, and the extent to which, such request is granted. Any rights granted to the Contractor shall be subject to the provisions of (i) of this clause.

(i) Reservation of Rights to the Government.

(1) In the event greater rights in any Subject Invention are vested in or granted to the Contractor pursuant to paragraph (h) above, such greater rights shall, as a minimum, be subject to an irrevocable, nonexclusive and royalty-free license to practice and have practiced each such Subject Invention (made by the Contractor) throughout the world for Governmental purposes, and including the practice of each such Subject Invention (i) in the manufacture, use, and disposition of any article or material, (ii) in the use of any method, or (iii) in the performance of any service, acquired by or for the Government or with funds derived through the Military Assistance Program of the Government or funds otherwise derived through the Government.

(2) In the event greater rights are vested in the Contractor, the Contractor further agrees to and does hereby grant to the Government the right to require the granting of a license to an applicant under any such Invention:

(i) on a nonexclusive, royalty-free basis, unless the Contractor, his licensee, or his assignee demonstrates to the Government, at its request, that effective steps have been taken within three (3) years after a patent issues on such Invention to bring the Invention to the point of practical application or that the Invention has been made available for licensing royalty-free or on terms that are reasonable in the circumstances, or can show cause why the title should be retained for a further period of time; or

(ii) royalty-free or on terms that are reasonable in the circumstances to the extent that the Invention is required for public use by Governmental regulations or as may be necessary to fulfill health needs, or for other public purposes stipulated in the Schedule of this contract.

(j) Right to Disclose Subject Inventions. The Government may duplicate and disclose reports and disclosures of Subject Inventions required to be furnished by the Contractor pursuant to this Patent Rights clause.

(k) Forfeiture of Rights in Unreported Subject Inventions. The Contractor shall forfeit to the Government all rights in any Subject Invention which he fails to report to the Contracting Officer at or prior to the time he (i) files or causes to be filed a United States or foreign application thereon, or (ii) submits the final report required by (c)(1)(iii) of this clause,

CONTRACT NUMBER: N00014-69-C-0181
MODIFICATION NO.: P001

whichever is later; provided, that the Contractor shall not forfeit rights in a Subject Invention if (A) contending that the invention is not a Subject Invention, he nevertheless reports the invention and all the facts pertinent to his contention to the Contracting Officer within the time specified in (i) or (ii) above, or (B) he establishes that the failure to report was due entirely to causes beyond his control and without his fault or negligence. The Contractor shall be deemed to hold any such forfeited Subject Invention, and the patent applications and patents pertaining thereto, in trust for the Government pending written assignment of the Invention. The rights accruing to the Government under this paragraph shall be in addition to and shall not supersede any other rights which the Government may have in relation to unreported Subject Inventions. Nothing contained herein shall be construed to require the Contractor to report any invention which is not in fact a Subject Invention.

(1) Examination of Records Relating to Inventions. The Contracting Officer, or his authorized representative shall, until the expiration of three (3) years after final payment under this contract, have the right to examine any books, records, documents, and other supporting data of the Contractor which the Contracting Officer or his authorized representative shall reasonably deem directly pertinent to the discovery or identification of Subject Inventions or to compliance by the Contractor with the requirements of this clause.

5. Effective as of the date of this Modification, the "ALTERATIONS IN CONTRACT (For C(P) - March 1967) of October 1968 and June 1969," which are attached hereto, are hereby substituted for the "ALTERATIONS IN CONTRACT (For C(P) - March 1967) of October 1968," which are attached to the General Provisions.

This Modification increases the total price of Contract N00014-69-C-0181 by \$20,930.00, which increase is chargeable against the Appropriation set forth on Page 1, hereof.

PATENT RIGHTS (DEFERRED) (1968 SEP) (5)

ALTERATIONS IN CONTRACT
(For C(P) - March 1967)
October 1968

The following Alterations are hereby made in the General Provisions of this contract:

1. MODIFICATIONS

(a) In clause 6, entitled "Government Property," make the following changes:

(i) In paragraph (c), in the sixth line, delete the first word "of," and substitute in lieu thereof the "or."

(ii) Delete paragraph (d) in its entirety and substitute in lieu thereof the following:

"(d) Property Administration. The Contractor shall comply with the provisions of Appendix B, Armed Services Procurement Regulation, as in effect on the date of the contract, which is hereby incorporated by reference and made a part of this contract. Material to be furnished by the Government shall be ordered or returned by the Contractor, when required, in accordance with the 'Manual for Military Standard Requisitioning and Issue Procedure (MILSTRIP) for Defense Contractors' (Appendix H, Armed Services Procurement Regulation) as in effect on the date of this contract, which Manual is hereby incorporated by reference and made a part of this contract."

(iii) Delete paragraph (g) in its entirety and substitute in lieu thereof the following:

"(g) Risk of Loss.

(1) Except for loss, destruction or damage resulting from a failure of the Contractor due to willful misconduct or lack of good faith of any of the Contractor's managerial personnel as defined herein, to maintain and administer the program for the maintenance, repair, protection and preservation of the Government property as required by paragraph (f) hereof, and except as specifically provided in the clause or clauses of this contract designated in the Schedule, the Contractor shall not be liable for loss or destruction of or damage to the Government property provided under this contract:

(i) caused by any peril while the property is in transit off the Contractor's premises; or

(ii) caused by any of the following perils while the property is on the Contractor's or subcontractor's premises, or on any other premises where such property may properly be located, or by removal therefrom because of any of the following perils --

(A) fire; lightning, windstorm, cyclone, tornado, hail; explosion; riot, riot attending a strike, civil commotion; vandalism and malicious

ALTERATIONS IN CONTRACT
(For C(P) - March 1967)
October 1968

(3) Upon the happening of loss or destruction of or damage to any Government property caused by an excepted peril, the Contractor shall notify the Contracting Officer thereof, and shall communicate with the Loss and Salvage Organization, if any, now or hereafter designated by the Contracting Officer, and with the assistance of the Loss and Salvage Organization so designated (unless the Contracting Officer has directed that no such organization be employed), shall take all reasonable steps to protect the Government property from further damage, separate the damaged and undamaged Government property, put all the Government property in the best possible order, and furnish to the Contracting Officer a statement of:

- (i) the lost, destroyed, and damaged Government property;
- (ii) the time and origin of the loss, destruction, or damage;
- (iii) all known interests in commingled property of which the Government property is a part; and
- (iv) the insurance, if any, covering any part of or interest in such commingled property.

The Contractor shall be entitled to an equitable adjustment in the contract price for the expenditures made by him in performing his obligations under this subparagraph (3) (including charges made to the Contractor by the Loss and Salvage Organization, except any of such charges the payment of which the Government has, at its option, assumed directly), in accordance with the procedures provided for in the 'Changes' clause of this contract.

(4) With the approval of the Contracting Officer after loss or destruction of or damage to Government property, and subject to such conditions and limitations as may be imposed by the Contracting Officer, the Contractor may, in order to minimize the loss to the Government or in order to permit resumption of business or the like, sell for the account of the Government any item of Government property which has been damaged beyond practicable repair, or which is so commingled or combined with property of others, including the Contractor, that separation is impracticable.

(5) Except to the extent of any loss or destruction of or damage to Government property for which the Contractor is relieved of liability under the foregoing provisions of this clause, and except for reasonable wear and tear or depreciation, or the utilization of the Government property in accordance with the provisions of this contract, the Contractor assumes the risk of, and shall be responsible for, any loss or destruction of or damage to the Government property, and such property (other than that which is permitted to be sold) shall be returned to the Government in as good condition as when received by the Contractor in connection with this contract, or as repaired under paragraph (f) above.

ALTERATIONS IN CONTRACT
(For C(P) - March 1967)
June 1969

2. DELETIONS AND SUBSTITUTIONS

(a) Clause 12, entitled "Equal Opportunity," is hereby deleted in its entirety and the following substituted in lieu thereof:

"12. EQUAL OPPORTUNITY

"During the performance of this contract, the Contractor agrees as follows:

(1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Contracting Officer setting forth the provisions of this non-discrimination clause.

(2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(3) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided by the agency Contracting Officer, advising the labor union or workers' representative of the Contractor's commitments under Section 202 of Executive Order 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(5) The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

lbp

OCT 8 1969

Randomline, Inc.
Old York & Moreland Roads
Willow Grove, Pennsylvania 19090

A. R. Zandle

NO0014-69-C-0181, PO01

RANDOMLINE, INC.

Old York & Moreland Roads
Willow Grove, Penna. 19090

(215) OL 9-6228

September 26, 1969

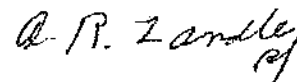
Office of Naval Research (code 622)
Washington, D. C. 20360

/RE: contract N00014-69-C-0181-P001
ONR: 622: DGR: lbp

Gentlemen:

The terms and conditions of the referenced contract are acceptable to us. Enclosed are the three copies that we have executed.

Sincerely,



A. R. Zandle

ARZ/bf

Enclosure:



DEPARTMENT OF THE NAVY
OFFICE OF NAVAL RESEARCH
WASHINGTON, D. C. 20360

IN REPLY REFER TO
ONR:622:DGR: lbp

SEP 18 1969

Randomline, Inc.
Glenside Avenue and Limekiln Pike
Glenside, Pennsylvania 19038 Attn: A. R. Zandle

Subject: Contract N00014-69-C-0181, PO01

Gentlemen:

Four copies of the subject contractual document(s) are forwarded herewith. Three are for execution and one is for information and retention. If the terms and conditions thereof are acceptable to you, the three copies should be executed by you and returned to this Office, Attention: Code 622. Upon receipt, this material will be executed on behalf of the Government and a fully executed copy returned to you.

The Contractor's name as used in executing the document should be identical to that shown on the contract. If, however, the title shown is incorrect, it is requested that it be corrected to show the name in which the contract is executed and that this Office be so advised in order that the other copies may be corrected accordingly.

Your prompt execution and return of three copies of this document will be appreciated.

Sincerely yours,
C. W. HARTLEY
Contracting Officer

Encls:

1. Four (4) copies of the subject document(s)



DEFENSE SUPPLY AGENCY

DEFENSE CONTRACT ADMINISTRATION SERVICES REGION, PHILADELPHIA
POST OFFICE BOX 7478
PHILADELPHIA, PENNSYLVANIA 19101

File

Miss Koch/ec/3572
16 July 1969

REPLY
REFER TO DCRP-COK-C

SUBJECT: Randomline, Inc.
Contract No: N00014-69-C-0181

TO: Procuring Contracting Officer
Office of Naval Research
Navy Department
ATTN: Mr. Lathanu/PCO
Washington, D.C. 20360

1. Attached find letter dated 1 July 1969 from Randomline, Inc., which is forwarded for your information, review and appropriate action.
2. In order that correspondence may be routed properly, it is recommended that a modification be issued changing the contractor's address to Old York & Moreland Roads, Willow Grove, Pennsylvania 19090.

WILLIAM P. LEHMAN
Administrative Contracting Officer

1 Encl



DEFENSE SUPPLY AGENCY
DEFENSE CONTRACT ADMINISTRATION SERVICES REGION, PHILADELPHIA
POST OFFICE BOX 7478
PHILADELPHIA, PENNSYLVANIA 19101

Miss Koch/ec/3572
16 July 1969

DCRP-COK-C

SUBJECT: Randomline, Inc.
Contract No: N00014-69-C-0181

TO: Procuring Contracting Officer
Office of Naval Research
Navy Department
ATTN: Mr. Lathanu/PCO
Washington, D.C. 20360

1. Attached find letter dated 1 July 1969 from Randomline, Inc., which is forwarded for your information, review and appropriate action.
2. In order that correspondence may be routed properly, it is recommended that a modification be issued changing the contractor's address to Old York & Moreland Roads, Willow Grove, Pennsylvania 19090.

1 Encl

WILLIAM F. LEHMAN
Administrative Contracting Officer

(K)

RANDOMLINE, INC.

Glenside Avenue & Limekiln Pike

Glenside, Penna. 19038

(215) TU 7-3121

July 1, 1969

Mr. N. P. Dordick
DCASR
P. O. Box 7478
Philadelphia, Pa. 19101

RE: Contract N00014-69-C-0181

Dear Mr. Dordick:

Please note in your records that next week we shall take possession of a building that will house our offices and laboratory. The address is:

Randomline, Inc.
Old York & Moreland Roads
Willow Grove, Penna., 19090

Sincerely,

A. R. Zandle

A. R. Zandle

ARZ/bf



DEFENSE SUPPLY AGENCY
DEFENSE CONTRACT ADMINISTRATION SERVICES REGION, PHILADELPHIA
POST OFFICE BOX 7478
PHILADELPHIA, PENNSYLVANIA 19101

[Handwritten signature]

IN REPLY
REFER TO DCRP - COK-C

8 April 1969

Randomline, Inc.
Glenside Avenue & Linekila Pike
Glenside, Pa. 19038

Gentlemen:

Contract No. N00014-69-C-0181 has been assigned to this Office for Administration. Personnel representing this Office who have been designated functional responsibilities in administering this contract are:

	NAME	TELEPHONE EXTENSION
Administrative Contracting Officer (ACO)	<u>R. P. Dardick</u>	<u>271-3572</u>
Industrial Specialist	<u>Ben Gulp</u>	<u>672-4300-ext. 83</u>
Quality Assurance Representative	<u>Harry Ingram</u>	<u>672-4300-ext. 86</u>
Property Administrator	<u>"</u>	<u>"</u>
Preservation-Packing Specialist	<u>"</u>	<u>"</u>
Transportation Officer	<u>J. J. Rowan</u>	<u>271-4060</u>
Value Engineering Monitor	<u>"</u>	<u>"</u>

Any questions concerning the terms of your contract or any action which could lead to the possibility of modifying these terms should be referred to the ACO who will be your principal point of contract. Other officials listed above may be contacted directly on routine functional matters.

It is suggested that you carefully review your contract and if there is any problem area which you feel may affect your performance, it is requested that you immediately advise the ACO.

To facilitate communications, it is suggested that you inform the ACO of the names of your authorized representatives in the administration of this contract.

Sincerely yours,

contr. 220
file ☒ Proc-Procuring Contract. Off.
Office of Naval Research
Navy Dept., Wash., D.C.
20360

William P. Lehman
William P. Lehman
Ch, Weapons/Systems Branch
Operations Div, CA

DCRP-FL-C-122
Oct 68

DCRP-COK-C

14 April 1969

Randomline, Inc.
Glenside Avenue & Limekiln Pike
Glenside, Pa. 19038

Attn: Dr. A. Frey

Gentlemen:

This will confirm telephone conversation on 14 April 1969. We are desirous of holding Post - Award Orientation Conferences on Contract NO0014-69-C-0181.

The proposed date is Wednesday, 16 April 1969, with conference commencing at 10:00 A.M. The meeting will be held at your Facility.

It is requested that you have appropriate technical and administrative personnel in attendance to achieve proper coordination with representatives of this office.

The attached DD Form 1484 (Post Award Conference Record) will serve as a tentative agenda of areas of interest to be discussed. The purpose of the meeting is to insure that a complete understanding is reached on all pertinent items to the end that the product is delivered on schedule meeting acceptance criteria.

Adequate time for questions and discussion of problem areas will be available.

Sincerely,

Nathan P. Dordick
NATHAN P. DORDICK

Administrative Contracting Officer

1 Encl

Cpy furnished; C.O., Office of Naval Research, Navy Dept., Attn: R. Lachance, Washington, D.C. 20360

S. Culp, North Branch, DCASE, Willow Grove Air Reserve Facility, Willow Grove, Pa. 19090

RECORD COPY

STANDARD FORM 26, JULY 1966 GENERAL SERVICES ADMINISTRATION PED. PROC. REG. (41CFR) 1-16.101										AWARD/CONTRACT										PAGE 1 OF 1	
1. CONTRACT (Proc. Inst. Ident.) NO. N00014-69-C-0181					2. EFFECTIVE DATE 69 Feb 15					3. REQUISITION/PURCHASE REQUEST/PROJECT NO. NR 144-246/8-23-68 (454)					4. CERTIFIED FOR NATIONAL DEFENSE UNDER BSOA REG. 2 AND/OR DMS REG. 1. RATING: DO-C9						
5. ISSUED BY Procuring Contracting Officer Office of Naval Research Navy Department Washington, D. C. 20380					6. ADMINISTERED BY (If other than block 5) Commander, Defense Contract Administration Services Region P.O. Box 7478 Philadelphia, Pennsylvania 19101					7. DELIVERY N.A. <input type="checkbox"/> FOB DESTI- NATION <input type="checkbox"/> OTHER (See below)											
8. CONTRACTOR NAME AND ADDRESS Randomline, Inc. Glenside Avenue & Limekiln Pike Glenside, Pennsylvania 19038 (Street, city, county, State, and ZIP code)					9. DISCOUNT FOR PROMPT PAYMENT N.A.					10. SUBMIT INVOICES (4 copies unless otherwise specified) TO ADDRESS SHOWN IN BLOCK 6 UNLESS BOX BELOW IS CHECKED <input type="checkbox"/> SEND INVOICES TO THE COGNIZANT DEFENSE CONTRACT AUDIT AGENCY											
11. SHIP TO/MARK FOR N.A.					12. PAYMENT WILL BE MADE BY Disbursing Officer Defense Contract Administration Services Region P. O. Box 7478 Philadelphia, Pennsylvania 19101					13. THIS PROCUREMENT WAS <input type="checkbox"/> ADVERTISED <input checked="" type="checkbox"/> NEGOTIATED, PURSUANT TO: <input checked="" type="checkbox"/> 10 U.S.C. 2304 (a)(1) <input type="checkbox"/> 41 U.S.C. 252 (c)(1)											
14. APPROPRIATION SYMBOL AND SUBHEAD		OBJ. CLASS.	BUREAU CONTROL NO.	SUB- ALLOT.	AUTHOR'N ACCTG. ACT.	TRANS. TYPE	PROPERTY ACCTG. ACT.	COUNTRY	COST CODE		AMOUNT										
17X1319.1491		25	24501	-	14	2B	-	-	1K54		\$20,680.00										
15. ITEM NO.	16. SUPPLIES/SERVICES						17. QUANTITY	18. UNIT	19. UNIT PRICE	20. AMOUNT											
(SEE SECTION B OF SCHEDULE)																					
TOTAL AMOUNT OF CONTRACT \$ 20,680.00																					
21. CONTRACTING OFFICER WILL COMPLETE BLOCK 22 OR 26 AS APPLICABLE																					
22. <input checked="" type="checkbox"/> CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign (this document and return 3 copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be sub- ject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)						25. <input type="checkbox"/> AWARD (Contractor is not required to sign this document.) Your offer on Solicitation Number _____ including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the items listed above and on any contin- uation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your offer, and (b) this award/ contract. No further contractual document is necessary.															
23. NAME OF CONTRACTOR BY _____ (Signature of person authorized to sign)						27. UNITED STATES OF AMERICA BY _____ (Signature of Contracting Officer)															
24. DATE SIGNED _____						28. NAME OF CONTRACTING OFFICER (Type or print) _____															
25. DATE SIGNED _____						29. DATE SIGNED _____															

SCHEDULESECTION A - BASIC CONTRACT IDENTIFICATION

This Schedule is established under, and constitutes a part of, Contract N00014-69-C-0181, consisting of: face page; Schedule; and General Provisions pages 1 through 32, identified as "C(P) - March 1967," with "Alterations" thereto. In the event of any inconsistency in this contract, the inconsistency shall be resolved by giving precedence in the following order: (a) the Schedule; (b) the General Provisions; (c) the other provisions of the contract whether incorporated by reference or otherwise; and (d) the Specifications.

SECTION B - SPECIFICATION OF WORK

<u>Line Item</u> <u>No.</u>	<u>Supplies/Services</u>	<u>Amount</u>
1	The Contractor shall furnish the necessary personnel and facilities for and, in accordance with any instructions issued by the Scientific Officer or his authorized representative, shall study the effects of exposure to radio frequency energy and ionized air on performance.	(FIXED PRICE)
	EAM TITLE: BEHAVIORAL BIOPHYSICS	
	1AA - See Section E - 15 April 1969	\$ 3,400.00
	1AB - See Section E - 15 June 1969	3,400.00
	1AC - See Section E - 15 August 1969	3,400.00
	1AD - See Section E - 15 October 1969	3,400.00
	1AE - See Section E - 15 December 1969	3,400.00
	1AF - See Section E - Upon completion of work	<u>3,680.00</u>
	Total Amount of Contract	\$20,680.00
2	Reports - See Section F	(Not Separately Priced)

SECTION C - PERIOD OF PERFORMANCE

The performance of work hereunder shall commence on 15 February 1969, and shall be completed on 14 February 1970.

SECTION D - SCIENTIFIC OFFICER

The Scientific Officer under this contract is the Head, Physiological Psychology Branch, Psychological Sciences Division, Office of Naval Research, Department of the Navy, Washington, D. C. 20360.

SCHEDULE

SECTION E - PRICE AND PAYMENTS

(1) Except to the extent otherwise provided herein, the Government shall pay to the Contractor as full compensation for the performance of work hereunder, the total price specified in Item 21 on Page 1, hereof. Upon receipt of properly certified invoices, and a certification by the Contract Administrator that status (progress) reports have been submitted in accordance with Section F, hereof, payments shall be made, notwithstanding any provisions of clause 2 of the contract to the contrary, as specified herein; provided, however, that the final payment shall not be made until the Scientific Officer has received the final report from the Contractor and has certified receipt and acceptance thereof to the Contract Administrator.

(2) The total contract price specified in this contract is based upon the understanding that the Contractor shall conduct the specified research program substantially in accordance with the proposal upon which this contract is based. In the event that the performance of work under this contract is not substantially in accordance with the underlying proposal, it is understood and agreed that the parties hereto shall negotiate an appropriate reduction in the contract price or an extension in the period of performance of this contract.

SECTION F - REPORTS

(1) The Contractor shall submit not more than fifty (50) copies of status (progress) reports on the dates specified herein, and not more than one hundred (100) copies of a final technical report making full disclosures of all research conducted under this contract. The final technical report shall be distributed in accordance with a list approved and furnished to the Contractor by the Scientific Officer. With the approval of the Scientific Officer, reprints of published articles may be distributed as technical reports. In all technical reports (including reprints) submitted hereunder, there shall be affixed a face page which shall contain a statement that "reproduction in whole or in part is permitted for any purpose of the United States Government," and a statement that the research was sponsored by the Office of Naval Research, including the ONR Contract Number and the ONR Contract Authority identification number (NR-, Reqn., etc.). Where reports based upon research performed under this contract are published in scientific and technical journals or where news releases are issued with regard to the work performed under this contract, there shall be included in such publications and news releases an appropriate statement acknowledging that the research being reported was accomplished with the support of the Office of Naval Research.

(2) The Contractor shall include a completed "Document Control Data - R&D" form (DD Form 1473) as the last page of each copy of every scientific and technical report prepared under this contract. The form contains instructions for preparation. The cognizant Government Contract Administrator will provide assistance to the Contractor in obtaining the required forms. Administrative type reports, managerial (status) reports, and reprints submitted as technical reports are excluded from this requirement.

SCHEDULE

(3) Unless otherwise authorized in writing by the Contracting Officer, reports submitted hereunder shall be reproduced only by duplicating processes and shall not exceed 5,000 single page reports or a total of 25,000 pages of a multiple-page report. To satisfy the requirements of the Defense Documentation Center, at least one copy of each technical report submitted to the Defense Documentation Center must be black typing or reproduction of black on white paper or suitable for reproduction by photographic techniques. Reprints of published technical articles are not within the scope of this paragraph (3).

PATENT RIGHTS (DEFERRED) (OCTOBER 1966) (1)

(a) Definitions Used in This Clause.

(1) Subject Invention means any invention or discovery, whether or not patentable, conceived or first actually reduced to practice in the course of or under this contract. The term "Subject Invention" includes, but is not limited to, any art, method, process, machine, manufacture, design or composition of matter, or any new and useful improvement thereof, or any variety of plant, which is or may be patentable under the patent laws of the United States of America or any foreign country.

(2) Governmental purpose means the right of the Government of the United States (including any agency thereof, state or domestic municipal government) to practice and have practiced (make or have made, use or have used, sell or have sold) any Subject Invention throughout the world by or on behalf of the Government of the United States.

(3) Contract means any contract, agreement, grant, or other arrangement, or subcontract entered into with or for the benefit of the Government where a purpose of the contract is the conduct of experimental, developmental, or research work.

(4) Subcontract and subcontractor mean any subcontract or subcontractor of the Contractor, any lower-tier subcontract or subcontractor under this contract.

(5) To bring to the point of practical application means to manufacture in the case of a composition or product, to practice in the case of a process, or to operate in the case of a machine or system and, in each case, under such conditions as to establish that the invention is being worked and that its benefits are reasonably accessible to the public.

(b) Rights Granted to the Government. Except as provided in (e) and (h) of this clause, the Contractor agrees to grant the Government all right, title and interest in and to each Subject Invention (made by the Contractor), subject to the reservation of a nonexclusive and royalty-free license to the Contractor. The license shall extend to existing and future associated and affiliated companies, if any, within the corporate structure of which the Contractor is a part and shall be assignable to the successor of that part of the Contractor's business to which such Invention pertains. Nothing contained in this Patent Rights clause shall be deemed to grant any rights with respect to any invention other than a Subject Invention.

(c) Invention Disclosures and Reports.

(1) With respect to Subject Inventions (made by the Contractor), except those which are obviously unpatentable under the patent laws of the United

PATENT RIGHTS (DEFERRED) (OCTOBER 1966) (2)

States, the Contractor shall furnish to the Contracting Officer:

(i) a written disclosure of each invention within six (6) months after conception or first actual reduction to practice, whichever occurs first under this contract, sufficiently complete in technical detail to convey to one skilled in the art to which the Invention pertains a clear understanding of the nature, purpose, operation, and to the extent known the physical, chemical, or electrical characteristics of the Invention; when unable to submit a complete disclosure, the Contractor shall within said six (6) month period submit a disclosure which includes all such technical detail then known to him and shall, unless the Contracting Officer authorizes a different period, submit all other technical detail necessary to complete the disclosure within three (3) months of the expiration of said six (6) month period;

(ii) interim reports at least every twelve (12) months, the initial period of which shall commence with the date of this contract, each report listing all such Inventions conceived or first actually reduced to practice more than three (3) months prior to the date of the report and not listed on a prior interim report, or certifying that there are no such unreported Inventions;

(iii) prior to final settlement of this contract, a final report listing all such Inventions including all those previously listed in interim reports, or certifying that there are no such unreported Inventions;

(iv) information in writing, as soon as practicable, of the date and identity of any public use, sale, or publication of such Invention made by or known to the Contractor or of any contemplated publication by the Contractor;

(v) upon request, such duly executed instruments and other papers (prepared by the Government) as are deemed necessary to vest in the Government the rights granted it under this clause and to enable the Government to apply for and prosecute any patent application, in any country, covering such Invention where the Government has the right under this clause to file such application; and

(vi) upon request, an irrevocable power of attorney to inspect and make copies of each United States patent application filed by, or on behalf of, the Contractor covering any such Invention.

(2) With respect to each Subject Invention in which the Contractor has been granted greater rights under paragraph (h) of this clause, the Contractor agrees to provide written reports at reasonable intervals, when requested by the Government as to:

(i) the commercial use that is being made or is intended to be made of such Invention;

PATENT RIGHTS (DEFERRED) (OCTOBER 1966) (3)

(ii) the steps taken by the Contractor to bring the Invention to the point of practical application, or to make the Invention available for licensing.

(d) Subcontracts.

(1) The Contractor shall, unless otherwise authorized or directed by the Contracting Officer, include a patent rights clause containing all the provisions of this Patent Rights clause except provision (g) in any subcontract hereunder where a purpose of the subcontract is the conduct of experimental, developmental, or research work. In the event of refusal by a subcontractor to accept this Patent Rights clause, or if in the opinion of the Contractor this Patent Rights clause is inconsistent with the policy set forth in ASPR 9-107.2 and 9-107.3, the Contractor:

(i) shall promptly submit a written report to the Contracting Officer setting forth the subcontractor's reasons for such refusal or the reasons Contractor is of the opinion that the inclusion of this clause would be so inconsistent, and other pertinent information which may expedite disposition of the matter; and

(ii) shall not proceed with the subcontract without the written authorization of the Contracting Officer.

The Contractor shall not, in any subcontract or by using such a subcontract as consideration therefor, acquire any rights to Subject Inventions for his own use (as distinguished from such rights as may be required solely to fulfill his contract obligations to the Government in the performance of this contract). Reports, instruments, and other information required to be furnished by a subcontractor to the Contracting Officer under the provisions of such a patent rights clause in a subcontract hereunder may, upon mutual consent of the Contractor and the subcontractor (or by direction of the Contracting Officer) be furnished to the Contractor for transmission to the Contracting Officer.

(2) The Contractor, at the earliest practicable date, shall also notify the Contracting Officer in writing of any subcontract containing a patent rights clause, furnish to the Contracting Officer a copy of such subcontract, and notify him when such subcontract is completed. It is understood that the Government is a third party beneficiary of any subcontract clause granting rights to the Government in Subject Inventions, and the Contractor hereby assigns to the Government all the rights that the Contractor would have to enforce the subcontractor's obligations for the benefit of the Government with respect to Subject Inventions. If there are no subcontracts containing patent rights clauses, a negative report is required. The Contractor shall not be obligated to enforce the agreements of any subcontractor hereunder relating to the obligations of the subcontractor to the Government in regard to Subject Inventions.

PATENT RIGHTS (DEFERRED) (OCTOBER 1966) (4)

(e) Domestic Filing of Patent Applications by Contractor.

(1) If greater rights are granted in and to a Subject Invention pursuant to paragraph (h) of this clause, the Contractor shall file in due form and within six (6) months of the granting of such greater rights a United States Patent application claiming the Invention referred to in said paragraph, and shall furnish, as soon as practicable, the serial number and filing date of each such application and the patent number of any resulting patent. As to each Invention in which the Contractor has been given greater rights, the Contractor shall notify the Contracting Officer at the end of the six (6) month period if he has failed to file or caused to be filed a patent application covering such invention. If the Contractor has filed or caused to be filed such an application within the six (6) month period, but elects not to continue prosecution of such application, he shall notify the Contracting Officer not less than sixty (60) days before the expiration of the response period. In either of the situations covered by the two immediately-preceding sentences, the Government shall be entitled to all rights, title and interest in such Invention subject to the reservation to the Contractor of a license as specified in paragraph (b).

(2) The following statement shall be included within the first paragraph of any patent application filed and any patent issued on an Invention which was made under Government contract or subcontract thereunder: "The Invention herein described was made in the course of or under a contract or subcontract thereunder (or grant) with (here state the Department or Agency)."

(f) Foreign Filing of Patent Applications.

(1) If the Contractor acquires greater rights in a Subject Invention pursuant to paragraph (h) of this clause and has filed a United States patent application claiming the Invention, the Contractor, or those other than the Government deriving rights from the Contractor, shall as between the parties hereto, have the exclusive right, subject to the rights of the Government under paragraph (i) of this clause, to file applications on the Inventions in each foreign country within:

(i) nine (9) months from the date a corresponding United States patent application is filed;

(ii) six (6) months from the date permission is granted to file foreign applications where such filing has been prohibited for security reasons; or

(iii) such longer period as may be approved by the Contracting Officer.

The Contractor shall notify the Contracting Officer of each foreign application filed and, upon written request of the Contracting Officer, furnish an English

PATENT RIGHTS (DEFERRED) (OCTOBER 1966) (5)

translation of such application, and convey to the Government the entire right, title and interest in the Invention in each foreign country in which an application has not been filed within the time specified above, subject to the reservation of a royalty-free license as specified in paragraph (b).

(2) If the Contractor does not acquire greater rights pursuant to paragraph (h) of this clause and the Government determines not to file a patent application on any Subject Invention (made by the Contractor) in any particular foreign country, the Contracting Officer, upon request of the Contractor, may authorize the Contractor to file a patent application on such Invention in such foreign country and retain ownership thereof, subject to an irrevocable, nonexclusive and royalty-free license to practice and have practiced such Subject Invention throughout the world for Governmental purposes, including the practice of each such Subject Invention (i) in the manufacture, use, and disposition of any article or material, (ii) in the use of any method, or (iii) in the performance of any service, acquired by or for the Government or with funds derived through the Military Assistance Program of the Government or funds otherwise derived through the Government.

(g) Withholding of Payment.

(1) Final payment under this contract shall not be made before the Contractor delivers to the Contracting Officer the final report required by (c)(1)(iii), all written invention disclosures required by (c)(1)(i), and all information as to subcontracts required by (d)(ii).

(2) If at any time before final payment under this contract the Contractor fails to deliver an interim report required by (c)(1)(ii), or a written invention disclosure required by (c)(1)(i), the Contracting Officer shall withhold from payment \$50,000 or five percent (5%) of the amount of this contract whichever is less (or whatever lesser sum is available if payments have exceeded ninety five percent (95%) of the amount of this contract) until the Contractor corrects all such failures.

(3) After payments total eighty percent (80%) of the amount of this contract, and if no amount is required to be withheld under (2) above, the Contracting Officer may, if he deems such action warranted because of the Contractor's performance under the Patent Rights clause of this contract or other known Government contracts, withhold from payment such sum as he considers appropriate, not exceeding \$50,000 or five percent (5%) of the amount of this contract whichever is less, to be held as a reserve until the Contractor delivers all the reports, disclosures, and information specified in (1) above. Subject to the five percent (5%) or \$50,000 limitation, the sum withheld under this subparagraph (3) may be increased or decreased from time to time at the discretion of the Contracting Officer.

PATENT RIGHTS (DEFERRED) (OCTOBER 1966) (6)

(4) No amount shall be withheld under this paragraph (g) while the amount specified by this paragraph is being withheld under other provisions of this contract. The total amount withheld under (2) and (3) above shall not exceed \$50,000 or five percent (5%), of the amount of this contract whichever is less. The withholding of any amount or subsequent payment thereof to the Contractor shall not be construed as a waiver of any rights accruing to the Government under this contract. This paragraph shall not be construed as requiring the Contractor to withhold any amounts from a subcontractor to enforce compliance with the patent provision of a subcontract. As used in this paragraph (g), "this contract" means "this contract as from time to time amended." In cost-type contracts, "amount of this contract" means "estimated cost of this contract."

(h) Contractor's Request for Greater Rights. The Contractor at the time of disclosing a Subject Invention pursuant to paragraph (c) of this clause, but not later than three (3) months thereafter, may submit in writing to the Contracting Officer, in accordance with applicable regulations, a request for greater rights in such Invention than the license reserved to the Contractor in paragraph (b) of this clause. Each such request shall include, but need not be limited to, information concerning the Contractor's intention and plan to bring the Invention to the point of commercial application. The Contracting Officer shall review the Contractor's request for greater rights and shall notify the Contractor whether, and the extent to which, such request is granted. Any rights granted to the Contractor shall be subject to the provisions of (i) of this clause.

(i) Reservation of Rights to the Government.

(1) In the event greater rights in any Subject Invention are vested in or granted to the Contractor pursuant to paragraph (h) above, such greater rights shall, as a minimum, be subject to an irrevocable, nonexclusive and royalty-free license to practice and have practiced each such Subject Invention (made by the Contractor) throughout the world for Governmental purposes, and including the practice of each such Subject Invention (i) in the manufacture, use, and disposition of any article or material, (ii) in the use of any method, or (iii) in the performance of any service, acquired by or for the Government or with funds derived through the Military Assistance Program of the Government or funds otherwise derived through the Government.

(2) In the event greater rights are vested in the Contractor, the Contractor further agrees to and does hereby grant to the Government the right to require the granting of a license to an applicant under any such Invention:

(i) on a nonexclusive, royalty-free basis, unless the Contractor, his licensee, or his assignee demonstrates to the Government, at its request, that effective steps have been taken within three (3) years after a patent issues on such Invention to bring the Invention to the point of practical application or that the Invention has been made available for licensing royalty-free or on terms that are reasonable in the circumstances, or can show cause why the title should be retained for a further period of time; or

PATENT RIGHTS (DEFERRED) (OCTOBER 1966) (7)

(ii) royalty-free or on terms that are reasonable in the circumstances to the extent that the Invention is required for public use by Governmental regulations or as may be necessary to fulfill health needs, or for other public purposes stipulated in the Schedule of this contract.

(j) Right to Disclose Subject Inventions. The Government may duplicate and disclose reports and disclosures of Subject Inventions required to be furnished by the Contractor pursuant to this Patent Rights clause.

(k) Forfeiture of Rights in Unreported Subject Inventions. The Contractor shall forfeit to the Government all rights in any Subject Invention which he fails to report to the Contracting Officer at or prior to the time he (i) files or causes to be filed a United States or foreign application thereon, or (ii) submits the final report required by (c)(iii) of this clause, whichever is later, provided that the Contractor shall not forfeit rights in a Subject Invention if (A) contending that the invention is not a Subject Invention, he nevertheless reports the invention and all the facts pertinent to his contention to the Contracting Officer within the time specified in (i) or (ii) above, or (B) he establishes that the failure to report was due entirely to causes beyond his control and without his fault or negligence. The Contractor shall be deemed to hold any such forfeited Subject Invention, and the patent applications and patents pertaining thereto, in trust for the Government pending written assignment of the Invention. The rights accruing to the Government under this paragraph shall be in addition to and shall not supersede any other rights which the Government may have in relation to unreported Subject Inventions. Nothing contained herein shall be construed to require the Contractor to report any invention which is not in fact a Subject Invention.

(l) Examination of Records Relating to Inventions. The Contracting Officer, or his authorized representative shall, until the expiration of three (3) years after final payment under this contract, have the right to examine any books, records, documents, and other supporting data of the Contractor which the Contracting Officer or his authorized representative shall reasonably deem directly pertinent to the discovery or identification of Subject Inventions or to compliance by the Contractor with the requirements of this clause.

ALTERATIONS IN CONTRACT
(For C(P) - March 1967)
October 1968

The following Alterations are hereby made in the General Provisions of this contract:

1. MODIFICATIONS

(a) In clause 6, entitled "Government Property," make the following changes:

(i) In paragraph (c), in the sixth line, delete the first word "of," and substitute in lieu thereof the word "or."

(ii) Delete paragraph (d) in its entirety and substitute in lieu thereof the following:

"(d) Property Administration. The Contractor shall comply with the provisions of Appendix B, Armed Services Procurement Regulation, as in effect on the date of the contract, which is hereby incorporated by reference and made a part of this contract. Material to be furnished by the Government shall be ordered or returned by the Contractor, when required, in accordance with the 'Manual for Military Standard Requisitioning and Issue Procedure (MILSTRIP) for Defense Contractors' (Appendix H, Armed Services Procurement Regulation) as in effect on the date of this contract, which Manual is hereby incorporated by reference and made a part of this contract."

(iii) Delete paragraph (g) in its entirety and substitute in lieu thereof the following:

"(g) Risk of Loss.

(1) Except for loss, destruction or damage resulting from a failure of the Contractor due to willful misconduct or lack of good faith of any of the Contractor's managerial personnel as defined herein, to maintain and administer the program for the maintenance, repair, protection and preservation of the Government property as required by paragraph (f) hereof, and except as specifically provided in the clause or clauses of this contract designated in the Schedule, the Contractor shall not be liable for loss or destruction of or damage to the Government property provided under this contract:

(i) caused by any peril while the property is in transit off the Contractor's premises; or

(ii) caused by any of the following perils while the property is on the Contractor's or subcontractor's premises, or on any other premises where such property may properly be located, or by removal therefrom because of any of the following perils --

(A) fire; lightning, windstorm, cyclone, tornado, hail; explosion; riot, riot attending a strike, civil commotion; vandalism and malicious

ALTERATIONS IN CONTRACT
(For C(P) - March 1967)
October 1968

mischievous; sabotage; aircraft or objects falling therefrom; vehicles running on land or tracks; excluding vehicles owned or operated by the Contractor or any agent or employee of the Contractor; smoke; sprinkler leakage; earthquake or volcanic eruption; flood, meaning thereby rising of a body of water; nuclear reaction, nuclear radiation or radioactive contamination; hostile or warlike action, including action in hindering, combating, or defending against an actual, impending or expected attack by any government or sovereign power (de jure or de facto), or by any authority using military, naval, or air forces; or by an agent of any such government, power, authority, or forces; or

(B) other peril, of a type not listed above, if such other peril is customarily covered by insurance (or by a reserve for self-insurance) in accordance with the normal practice of the Contractor, or the prevailing practice in the industry in which the Contractor is engaged with respect to similar property in the same general locale.

The perils as set forth in (i) and (ii) above are hereinafter called 'excepted perils.'

If the Contractor transfers Government property to the possession and control of a subcontractor, the transfer shall not affect the liability of the Contractor for loss or destruction of or damage to the property as set forth above. However, the Contractor shall require the subcontractor to assume the risk of, and be responsible for, any loss or destruction of or damage to the property while in the latter's possession or control, except to the extent that the subcontract, with the prior approval of the Contracting Officer, provides for the relief of the Contractor from such liability. In the absence of such approval, the subcontract shall contain appropriate provisions requiring the return of all Government property in as good condition as when received, except for reasonable wear and tear or for the utilization of the property in accordance with the provisions of the prime contract.

The term 'Contractor's managerial personnel' as used herein means the Contractor's directors, officers and any of his managers, superintendents, or other equivalent representatives who have supervision or direction of:

- (i) all or substantially all of the Contractor's business;
- (ii) all or substantially all of the Contractor's operation at any one plant or separate location at which the contract is being performed; or
- (iii) a separate and complete major industrial operation in connection with the performance of this contract.

(2) The Contractor represents that he is not including in the price hereunder, and agrees that he will not hereafter include in any price to the Government, any charge or reserve for insurance (including any self-insurance funds or reserve) covering loss or destruction of or damage to the Government property caused by any excepted peril.

ALTERATIONS IN CONTRACT
(For C(P) - March 1967)
October 1968

(3) Upon the happening of loss or destruction of or damage to any Government property caused by an excepted peril, the Contractor shall notify the Contracting Officer thereof, and shall communicate with the Loss and Salvage Organization, if any, now or hereafter designated by the Contracting Officer, and with the assistance of the Loss and Salvage Organization so designated (unless the Contracting Officer has directed that no such organization be employed), shall take all reasonable steps to protect the Government property from further damage, separate the damaged and undamaged Government property, put all the Government property in the best possible order, and furnish to the Contracting Officer a statement of:

- (i) the lost, destroyed, and damaged Government property;
- (ii) the time and origin of the loss, destruction, or damage;
- (iii) all known interests in commingled property of which the Government property is a part; and
- (iv) the insurance, if any, covering any part of or interest in such commingled property.

The Contractor shall be entitled to an equitable adjustment in the contract price for the expenditures made by him in performing his obligations under this subparagraph (3) (including charges made to the Contractor by the Loss and Salvage Organization, except any of such charges the payment of which the Government has, at its option, assumed directly), in accordance with the procedures provided for in the 'Changes' clause of this contract.

(4) With the approval of the Contracting Officer after loss or destruction of or damage to Government property, and subject to such conditions and limitations as may be imposed by the Contracting Officer, the Contractor may, in order to minimize the loss to the Government or in order to permit resumption of business or the like, sell for the account of the Government any item of Government property which has been damaged beyond practicable repair, or which is so commingled or combined with property of others, including the Contractor, that separation is impracticable.

(5) Except to the extent of any loss or destruction of or damage to Government property for which the Contractor is relieved of liability under the foregoing provisions of this clause, and except for reasonable wear and tear or depreciation, or the utilization of the Government property in accordance with the provisions of this contract, the Contractor assumes the risk of, and shall be responsible for, any loss or destruction of or damage to the Government property, and such property (other than that which is permitted to be sold) shall be returned to the Government in as good condition as when received by the Contractor in connection with this contract, or as repaired under paragraph (f) above.

ALTERATIONS IN CONTRACT
(For C(P) - March 1967)
October 1968

(6) In the event the Contractor is reimbursed or compensated for any loss or destruction of or damage to the Government property, caused by an excepted peril, he shall equitably reimburse the Government. The Contractor shall do nothing to prejudice the Government's rights to recover against third parties for any such loss, destruction or damage and, upon the request of the Contracting Officer, shall at the Government's expense, furnish to the Government all reasonable assistance and cooperation (including the prosecution of suit and the execution of instruments of assignment in favor of the Government) in obtaining recovery. In addition, where a subcontractor has not been relieved from liability for any loss or destruction of or damage to the Government property, the Contractor shall enforce the liability of the subcontractor for such loss or destruction of or damage to the Government property for the benefit of the Government."

(iv) Delete paragraph (j) in its entirety and substitute in lieu thereof the following:

"(j) Restoration of Contractor's Premises and Abandonment. Unless otherwise provided herein, the Government:

(i) may abandon any Government property in place, and thereupon all obligations of the Government regarding such abandoned property shall cease; and

(ii) has no obligation to the Contractor with regard to restoration or rehabilitation of the Contractor's premises, neither in case of abandonment (paragraph (j)(i) above), disposition on completion of need or of the contract (paragraph (i) above), nor otherwise, except for restoration or rehabilitation costs which are properly included in an equitable adjustment under paragraph (b) above."

11 March 1969

kc

Randomline, Incorporated
Glenside Avenue & Limekiln Pike
Glenside, Pennsylvania 19038

A. R. Zandle

N00014-69-C-0181

RANDOMLINE, INC.

Glenside Avenue & Limekiln Pike

Glenside, Penna. 19038

(215) TU 7-3121

March 3, 1969

Office of Naval Research (code 622)
Washington, D. C. 20360

RE: contract N00014-69-C-0181
ONR: 622: DGR: mj

Gentlemen:

The terms and conditions of the referenced contract are acceptable to us. Enclosed are the three copies that we have executed.

Sincerely,


A. R. Zandle

ARZ/bf

Enclosure:



DEPARTMENT OF THE NAVY
OFFICE OF NAVAL RESEARCH
WASHINGTON, D. C. 20360

IN REPLY REFER TO
ONR:622:DGR: mj

FEB 26 1969

Randomline, Inc.
Glenside Avenue & Limekiln Pike
Glenside, Pennsylvania 19036

Subject: Contract N00014-69-C-0181

Gentlemen:

Four copies of the subject contractual document(s) are forwarded herewith. Three are for execution and one is for information and retention. If the terms and conditions thereof are acceptable to you, the three copies should be executed by you and returned to this Office, Attention: Code 622. Upon receipt, this material will be executed on behalf of the Government and a fully executed copy returned to you.

The Contractor's name as used in executing the document should be identical to that shown on the contract. If, however, the title shown is incorrect, it is requested that it be corrected to show the name in which the contract is executed and that this Office be so advised in order that the other copies may be corrected accordingly.

Your prompt execution and return of three copies of this document will be appreciated.

Sincerely yours,

C. W. HARTLEY
Contracting Officer

Encls:

1. Four (4) copies of the subject document(s)

ALTERATIONS IN CONTRACT
(For C(P) - March 1967)
October 1968

The following Alterations are hereby made in the General Provisions of this contract:

1. MODIFICATIONS

(a) In clause 6, entitled "Government Property," make the following changes:

(i) In paragraph (c), in the sixth line, delete the first word "of," and substitute in lieu thereof the "or."

(ii) Delete paragraph (d) in its entirety and substitute in lieu thereof the following:

"(d) Property Administration. The Contractor shall comply with the provisions of Appendix B, Armed Services Procurement Regulation, as in effect on the date of the contract, which is hereby incorporated by reference and made a part of this contract. Material to be furnished by the Government shall be ordered or returned by the Contractor, when required, in accordance with the 'Manual for Military Standard Requisitioning and Issue Procedure (MILSTRIP) for Defense Contractors' (Appendix H, Armed Services Procurement Regulation) as in effect on the date of this contract, which Manual is hereby incorporated by reference and made a part of this contract."

(iii) Delete paragraph (g) in its entirety and substitute in lieu thereof the following:

"(g) Risk of Loss.

(1) Except for loss, destruction or damage resulting from a failure of the Contractor due to willful misconduct or lack of good faith of any of the Contractor's managerial personnel as defined herein, to maintain and administer the program for the maintenance, repair, protection and preservation of the Government property as required by paragraph (f) hereof, and except as specifically provided in the clause or clauses of this contract designated in the Schedule, the Contractor shall not be liable for loss or destruction of or damage to the Government property provided under this contract:

(i) caused by any peril while the property is in transit off the Contractor's premises; or

(ii) caused by any of the following perils while the property is on the Contractor's or subcontractor's premises, or on any other premises where such property may properly be located, or by removal therefrom because of any of the following perils --

(A) fire; lightning, windstorm, cyclone, tornado, hail; explosion; riot, riot attending a strike, civil commotion; vandalism and malicious

ALTERATIONS IN CONTRACT
(For C(P) - March 1967)
October 1968

mischievous; sabotage; aircraft or objects falling therefrom; vehicles running on land or tracks, excluding vehicles owned or operated by the Contractor or any agent or employee of the Contractor; smoke; sprinkler leakage; earthquake or volcanic eruption; flood, meaning thereby risking of a body of water; nuclear reaction, nuclear radiation or radioactive contamination; hostile or warlike action, including action in hindering, combating, or defending against an actual, impending or expected attack by any government or sovereign power (de jure or de facto), or by any authority using military, naval, or air forces, or by an agent of any such government, power, authority, or forces; or

(B) other peril, of a type not listed above, if such other peril is customarily covered by insurance (or by a reserve for self-insurance) in accordance with the normal practice of the Contractor, or the prevailing practice in the industry in which the Contractor is engaged with respect to similar property in the same general locale.

The perils as set forth in (i) and (ii) above are hereinafter called 'excepted perils.'

If the Contractor transfers Government property to the possession and control of a subcontractor, the transfer shall not affect the liability of the Contractor for loss or destruction of or damage to the property as set forth above. However, the Contractor shall require the subcontractor to assume the risk of, and be responsible for, any loss or destruction of or damage to the property while in the latter's possession or control, except to the extent that the subcontract, with the prior approval of the Contracting Officer, provides for the relief of the Contractor from such liability. In the absence of such approval, the subcontract shall contain appropriate provisions requiring the return of all Government property in as good condition as when received, except for reasonable wear and tear or for the utilization of the property in accordance with the provisions of the prime contract.

The term 'Contractor's managerial personnel' as used herein means the Contractor's directors, officers and any of his managers, superintendents, or other equivalent representatives who have supervision or direction of:

- (i) all or substantially all of the Contractor's business;
- (ii) all or substantially all of the Contractor's operation at any one plant or separate location at which the contract is being performed; or
- (iii) a separate and complete major industrial operation in connection with the performance of this contract.

(2) The Contractor represents that he is not including in the price hereunder, and agrees that he will not hereafter include in any price to the Government, any charge or reserve for insurance (including any self-insurance funds or reserve) covering loss or destruction of or damage to the Government property caused by any excepted peril.

ALTERATIONS IN CONTRACT
(For C(P) - March 1967)
October 1968

(3) Upon the happening of loss or destruction of or damage to any Government property caused by an excepted peril, the Contractor shall notify the Contracting Officer thereof, and shall communicate with the Loss and Salvage Organization, if any, now or hereafter designated by the Contracting Officer, and with the assistance of the Loss and Salvage Organization so designated (unless the Contracting Officer has directed that no such organization be employed), shall take all reasonable steps to protect the Government property from further damage, separate the damaged and undamaged Government property, put all the Government property in the best possible order, and furnish to the Contracting Officer a statement of:

(i) the lost, destroyed, and damaged Government property;

(ii) the time and origin of the loss, destruction, or damage;

(iii) all known interests in commingled property of which the Government property is a part; and

(iv) the insurance, if any, covering any part of or interest in such commingled property.

The Contractor shall be entitled to an equitable adjustment in the contract price for the expenditures made by him in performing his obligations under this subparagraph (3) (including charges made to the Contractor by the Loss and Salvage Organization, except any of such charges the payment of which the Government has, at its option, assumed directly), in accordance with the procedures provided for in the 'Changes' clause of this contract.

(4) With the approval of the Contracting Officer after loss or destruction of or damage to Government property, and subject to such conditions and limitations as may be imposed by the Contracting Officer, the Contractor may, in order to minimize the loss to the Government or in order to permit resumption of business or the like, sell for the account of the Government any item of Government property which has been damaged beyond practicable repair, or which is so commingled or combined with property of others, including the Contractor, that separation is impracticable.

(5) Except to the extent of any loss or destruction of or damage to Government property for which the Contractor is relieved of liability under the foregoing provisions of this clause, and except for reasonable wear and tear or depreciation, or the utilization of the Government property in accordance with the provisions of this contract, the Contractor assumes the risk of, and shall be responsible for, any loss or destruction of or damage to the Government property, and such property (other than that which is permitted to be sold) shall be returned to the Government in as good condition as when received by the Contractor in connection with this contract, or as repaired under paragraph (f) above.

ALTERATIONS IN CONTRACT
(For C(P) - March 1967)
October 1968

(6) In the event the Contractor is reimbursed or compensated for any loss or destruction of or damage to the Government property, caused by an excepted peril, he shall equitably reimburse the Government. The Contractor shall do nothing to prejudice the Government's rights to recover against third parties for any such loss, destruction or damage and, upon the request of the Contracting Officer, shall at the Government's expense, furnish to the Government all reasonable assistance and cooperation (including the prosecution of suit and the execution of instruments of assignment in favor of the Government) in obtaining recovery. In addition, where a subcontractor has not been relieved from liability for any loss or destruction of or damage to the Government property, the Contractor shall enforce the liability of the subcontractor for such loss or destruction of or damage to the Government property for the benefit of the Government."

(iv) Delete paragraph (j) in its entirety and substitute in lieu thereof the following:

"(j) Restoration of Contractor's Premises and Abandonment. Unless otherwise provided herein, the Government:

(i) may abandon any Government property in place, and thereupon all obligations of the Government regarding such abandoned property shall cease; and

(ii) has no obligation to the Contractor with regard to restoration or rehabilitation of the Contractor's premises, neither in case of abandonment (paragraph (j)(i) above), disposition on completion of need or of the contract (paragraph (i) above), nor otherwise, except for restoration or rehabilitation costs which are properly included in an equitable adjustment under paragraph (b) above."

ALTERATIONS IN CONTRACT
(For C(P) - March 1967)
June 1969

2. DELETIONS AND SUBSTITUTIONS

(a) Clause 12, entitled "Equal Opportunity," is hereby deleted in its entirety and the following substituted in lieu thereof:

"12. EQUAL OPPORTUNITY

"During the performance of this contract, the Contractor agrees as follows:

(1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Contracting Officer setting forth the provisions of this non-discrimination clause.

(2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(3) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided by the agency Contracting Officer, advising the labor union or workers' representative of the Contractor's commitments under Section 202 of Executive Order 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(5) The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

ALTERATIONS IN CONTRACT
(For C(P) - March 1967)
June 1969

(6) In the event of the Contractor's noncompliance with the non-discrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be cancelled, terminated or suspended in whole or in part, and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(7) The Contractor will include the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions including sanctions for non-compliance; provided, however, that in the event the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States."

3. DELETIONS

(a) Clause 41, entitled "Order of Precedence," is intentionally deleted in its entirety.